Catastrophes!

Isaac Asimov
Edward Wellen

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Catastrophes!

Isaac Asimov, Martin Harry Greenberg, and Charles G. Waugh

Foreword

It is quite customary for a piece of fiction to contain at least the threat of disaster. It is the threat, the menace, the apprehension of something one desperately does not want to take place that creates the suspense, and that rouses the interest of the reader.

To be sure, the disaster may be a very slight and personal one-the youngster who may fail the test, or lose the game, or be turned down for a date-but it is there. To be equally sure, the story may be a lighthearted one with a happy ending, but the disaster, however slight, must be there in the mid-course for the ending to shine happily against.

This is not to say that a story cannot be written without a disaster, but what a dull story it would be and how little worth the reading.

And, as in so many other respects, science fiction manages to outshine other types of fiction. Where but in science fiction can *real* disasters be found?

Take the most elaborate of realistic suspense and what can you have? The loss of a war? The enslavement of a nation?

In science fiction, the destruction of civilization is the least one might expect as the threat of disaster, or its actual accomplishment, is represented to the reader.

In this collection of twenty stories, we have four stories dealing with each of five different levels of disaster, organized according to a scheme I devised in my nonfiction discussion entitled A *Choice of Catastrophes* (Simon and Schuster, 1979; Fawcett Columbine, 1981),

The movement is from the most all-encompassing catastrophes toward progressively narrower ones. If this sounds to you like a journey into anticlimax, you are wrong, for as the catastrophes become narrower, they also become more probable. In short, in this book you may be steadily decreasing the scope but you are as steadily increasing the danger.

Why bother? Why scare yourself?

For one thing, these are memorable stories you will enjoy and won't easily forget. For another, humanity *does* face catastrophes of various levels of scope and various gradations of likelihood, and if there is any chance at all of evading them or blunting them, that chance will be heightened if we know what the dangers may be and consider in advance how to prevent or ameliorate them.

Staring at danger may not be pleasant-but closing your eyes will not make the danger go away, and with closed eyes you will surely be destroyed by it.

Isaac Asimov

Part 1. Universe Destroyed

In A Choice of Catastrophes, "Catastrophes of the First Class" are those in which the whole Universe is destroyed.

Actually, the possibility of such a catastrophe long antedates the imaginings of modern science fiction. In ancient times, it was usually taken for granted that the Universe would be destroyed someday (as it was created) by the Word of God, or by the decree of Fate.

Even today there are many who assume that there will be a Day of Judgment and that it is even imminent. In every generation there are those who await it momentarily ("The Last Trump" by Isaac Asimov). And, of course, the end can come about through the action not of the Creator of Humanity, but of the Created of Humanity ("No Other Gods" by Edward Wellen).

If we put mythology to one side and confine ourselves to the even mightier and more colorful conclusions of science, we do not have the crash of the Lord as He slams shut the Book of Life, but rather the long, long dwindle of sound ever, ever fainter as the Universe whispers dyingly to its death; as entropy increases, ever more slowly, to its maximum; as available energy dwindles to zero and with it all change, life, us ("The Wine Has Been Left Open Too Long and the Memory Has Gone Flat" by Harlan Ellison).

Or else, there can be a revival. The expanding Universe can recontract, the unwinding rewind, the dying undie. That sounds good and hopeful but what the revival ends in is as surely, if much more gloriously, the death of all ("Stars, Won't You Hide Me?" by Ben Bova).

The Last Trump

by Isaac Asimov

The' Archangel Gabriel was quite casual about the whole thing. Idly, he let the tip of one wing graze the planet Mars, which, being of mere matter, was unaffected by the contact.

He said, "It's a settled matter, Etheriel. There's nothing to be done about it now. The Day of Resurrection is due."

Etheriel, a very junior seraph who had been created not quite a thousand years earlier as men counted time, quivered so that distinct vortices appeared in the continuum. Ever since his creation, he had been in immediate charge of Earth and environs. As a job, it was a sinecure, a cubbyhole, a dead end, but through the centuries he had come to take a perverse pride in the world.

"But you'll be disrupting my world without notice."

"Not at all. Not at all. Certain passages occur in the Book of Daniel and in the Apocalypse of St. John which are clear enough."

"They are? Having been copied from scribe to scribe? I wonder if two words in a row are left unchanged,"

"There are hints in the Rig-Veda, in the Confucian Analects-"

"Which are the property of isolated cultural groups which exist as a thin aristocracy-"

"The Gilgamesh Chronicle speaks out plainly."

"Much of the Gilgamesh Chronicle was destroyed with the library of Ashurbanipal sixteen hundred years, Earth-style, before my creation."

"There are certain features of the Great Pyramid and a pattern in the inlaid jewels of the Taj Mahal-"

"Which are so subtle that no man has ever rightly interpreted them."

Gabriel said wearily, "If you're going to object to everything, there's no use discussing the matter. In any case, *you* ought to know about it. In matters concerning Earth, you're omniscient,"

"Yes, if I choose to be. I've had much to concern me here and investigating the possibilities of Resurrection did not, I confess, occur to me."

"Well, it should have. AH the papers involved are in the files of the Council of Ascendants, You could have availed yourself of them at any time."

"I tell you all my time *was* needed here. You have no idea of the deadly efficiency of the Adversary on this planet. It took all my efforts

to curb him, and even so-

"Why, yes"-Gabriel stroked a cotnet as it passed-"he does seem to have won his little victories, I note as I let the interlocking factual pattern of this miserable little world flow through me that this is one of those setups with matter-energy equivalence."

"So it is," said Etheriel.

"And they are playing with it."

"I'm afraid so."

"Then what better time for ending the matter?"

"I'll be able to handle it, I assure you. Their nuclear bombs will not destroy them."

"I wonder. Well, now, suppose you let me continue, Etheriel. The appointed moment approaches,"

The seraph said stubbornly, "I would like to see the documents in the case."

"If you insist." The wording of an Act of Ascendancy appeared in glittering symbols against the deep black of the airless firmament.

Etheriel read aloud: "It is hereby directed by order of Council that the Archangel Gabriel, Serial number etcetera, etcetera (well, that's you, at any rate), will approach Planet, Class A, number G753990, hereinafter known as Earth, and on January 1,1957, at 12:01 pm., using local time values-" He finished reading in gloomy silence.

"Satisfied,?"

"No, but I'm helpless,"

Gabriel smiled. A trumpet appeared in space, in shape like an earthly trumpet, but its burnished gold extended from Earth to sun. It was raised to Gabriel's glittering beautiful lips.

"Can't you let me have a little time to take this up with the Council?" asked Etheriel desperately.

"What good would it do you? The act is countersigned by the Chief, and you know that an act countersigned by the Chief is absolutely irrevocable. And now, if you don't mind, it is almost the stipulated second and I want to be done with this as I have other matters of much greater moment on my mind. Would you step out of my way a little? Thank you."

Gabriel blew, and a clean, thin sound of perfect pitch and crystalline delicacy filled all the universe to the furthest star. As it sounded, there was a tiny moment of stasis as thin as the line separating past from future, and then the fabric of worlds collapsed upon itself and matter was gathered back into the primeval chaos from which it had once sprung at a word. The stars and nebulae were gone, and the cosmic dust, the sun, the planets, the moon; all, all, all except the Earth itself, which spun as before in a universe now completely empty.

The Last Trump had sounded.

R. E. Mann (known to all who knew him simply as R. E.) eased himself into the offices of the Billikan Bitsies factory and stared somberly at the tall man (gaunt but with a certain faded elegance about his neat gray mustache) who bent intently over a sheaf of papers on his desk.

R. E. looked at his wristwatch, which still said 7:01, having ceased running at that time. It was Eastern standard time, of course; 12:01 p.m. Greenwich time. His dark brown eyes, staring sharply out over a pair of pronounced cheekbones, caught those of the other.

For a moment, the tall man stared at him blankly. Then he said, "Can I do anything for you?"

"Horatio J. Billikan, I presume? Owner of this place?"

"Yes."

"I'm R. E. Mann and I couldn't help but stop in when I finally found someone at work. Don't you know what today is?"

"Today?"

"It's Resurrection Day."

"Oh, that! I know it. I heard the blast. Pit to wake the dead_ That's rather a good one, don't you think?" He chuck led for a moment, then went on. "It woke me at seven in the morning. I nudged my wife. She slept through it, of course.

I always said she would. 'It's the Last Trump, dear,' I said.

Hortense, that's my wife, said, 'All right,' and went back to sleep. I bathed, shaved, dressed and came to work."

"But why?"

"Why not?"

"None of your workers have come in."

"No, poor souls. They'll take a holiday just at first. You've got to expect that. After all, it isn't every day that the world comes to an end. Frankly, it's just as well. It gives me a chance to straighten out my personal correspondence without interruptions. Telephone hasn't rung once."

He stood up and went to the window. "It's a great improvement. No blinding sun any more and the snow's gone. There's a pleasant light and a pleasant warmth. Very good arrangement- But now, if you don't mind, I'm *rather* busy, so if you'll excuse me-"

A great, hoarse voice interrupted with a, "Just a minute, Horatio," and a gentleman, looking remarkably like Billikan in a somewhat craggier way, followed his prominent nose into the office and struck an attitude of offended dignity which was scarcely spoiled by the fact that he was quite naked. "May I ask why you've shut down Bitsies?"

B.illikan looked faint. "Good Heavens," he said, "it's Father. Wherever did you come from?"

"From the graveyard," roared Billikan, Senior. "Where on Earth else? They're coming out of the ground there by the dozens. Every one of them naked. Women, too,"

Billikan cleared his throat. "I'll get you some clothes, Father. I'll bring them to you from home."

"Never mind that. Business first. Business first."

R. E. came out of his musing. "Is everyone coming out of their graves at the same time, sir?"

He stared curiously at Billikan, Senior, as he spoke. The old man's appearance was one of rubust age. His cheeks were furrowed but glowed with health. His age, R. E. decided, was exactly what it was at the moment of his death, but his body was as it should have been at that age if it functioned ideally.

Billikan, Senior, said, "No, sir, they are not. The newer graves are coming up first, Pottersby died five years before me and came up about five minutes after me. Seeing him made me decide to leave. I had had enough of him when… And that reminds me." He brought his fist down on the desk, a very solid fist. "There were no taxis, no busses. Telephones weren't working. I had to walk. I had to walk twenty miles."

"Like that?" asked his son in a faint and appalled voice.

Billikan, Senior, looked down upon his bare skin with casual approval. "It's warm. Almost everyone else is naked…Anyway, son, I'm not here to make small talk. Why is the factory shut down?"

"It isn't shut down. It's a special occasion."

"Special occasion, my foot. You call union headquarters and tell them Resurrection Day isn't in the contract. Every worker is being docked for every minute he's off the job."

Billikan's lean face took on a stubborn look as he peered at his father. "I will not. Don't forget, now, you're no longer in charge of this plant. I am."

"Oh, you are? By what right?"

"By your will."

"All right. Now here I am and I void my will."

"You can't, Father. You're dead. You may not look dead, but I have witnesses. I have the doctor's certificate. I have receipted bills from the undertaker. I can get testimony from the pallbearers."

Billikan, Senior, stared at his son, sat down, placed his arm over the back of the chair, crossed his legs and said, "If it comes to that, we're all dead, aren't we? The world's come to an end, hasn't it?"

"But you've been declared legally dead and I haven't."

"Oh, we'll change that, son. There are going to be more of us than of you and votes count."

Billikan, Junior, tapped the desk firmly with the flat of his hand

and flushed slightly. "Father, I hate to bring up this particular point, but you force me to. May I remind you that by now I am sure that Mother is sitting at, home waiting for you; that she probably had to walk the streets-uh-naked, too; and that she probably isn't in a good humor."

Billikan, Senior, went ludicrously pale. "Good Heavens!"

"And you know she always wanted you to retire."

Billikan, Senior, came to a quick decision. "I'm not going home. Why, this is a nightmare. Aren't there any limits to this Resurrection business? It's-it's-it's sheer anarchy. There's such a thing as overdoing it. I'm just not going home."

At which point, a somewhat rotund gentleman with a smooth, pink face and fluffy white sideburns (much like pictures of Martin Van Buren) stepped in and said coldly, *"Good day."*

"Father," said Billikan, Senior.

"Grandfather," said Billikan, Junior.

Billikan, Grandsenior, looked at Billikan, Junior, with disapproval. "If you are my grandson," he said, "you've aged considerably and the change has not improved you,"

Billikan, Junior, smiled with dyspeptic feebleness, made no answer.

Billikan, Grandsenior, did not seem to require one. He said, "Now if you two will bring me up to date on the business, I will resume my managerial function"

There were two simultaneous answers, and Billikan, Grandsenior's, floridity waxed dangerously as he beat the ground peremptorily with an imaginary cane and barked a retort.

R. E. said, "Gentlemen."

He raised his voice, "Gentlemen!"

He shrieked at full lung-power, "GENTLEMEN!"

Conversation snapped off sharply and all turned to look at him. R. E.'s angular face, his oddly attractive eyes, his sardonic mouth seemed suddenly to dominate the gathering.

He said, "I don't understand this argument. What is it that you manufacture?"

"Biteies," said Billikan, Junior.

"Which, I take it, are a packaged cereal breakfast food-"

'Teeming with energy in every golden, crispy flake-" cried Billikan, Junior,

"Covered with honey-sweet, crystalline sugar; a confection and a food-" growled Billikan, Senior.

"To tempt the most jaded appetite," roared Billikan, Grandsenior.

"Exactly," said R. E. "What appetite?"

They stared stolidly at him. "I beg your pardon," said Billikan,

Junior.

"Are any of you hungry?" asked R. E. "I'm not."

"What is this fool maundering about?" demanded Billikan, Grandsenior, angrily. His invisible cane would have been prodding E. E. in the navel had it (the cane, not the navel) existed.

S, E. said, "I'm trying to tell you that no one will ever eat again. It is the hereafter, and food is unnecessary,"

The expressions on the faces of the Billikans needed no interpretation. It was,obvious that they had tried their own appetites and found them wanting.

Billikan, Junior, said ashenly, "Rained!"

Billikan, Grandsenior, pounded the floor heavily and noiselessly with his imaginary cane. "This is confiscation of property without due process-of law. I'll sue. I'11 sue."

"Quite unconstitutional," agreed Billikan, Senior.

"If you can find anyone to sue, I wish you all good fortune," said R. E. agreeably. "And now if you'll excuse me I think I'll walk toward the graveyard."

He put his hat on his head and walked out the door.

Etheriel, his vortices quivering, stood before the glory of a six-winged cherub.

The cherub said, "If I understand you, your particular universe has been dismantled."

"Exactly."

"Well, surely, now, you don't expect *me* to set it up again?"

"I don't expect you to do anything," said Etheriel, "except to arrange an appointment for me with the Chief."

The cherub gestured his respect instantly at hearing the word. Two wing-tips covered his feet, two his «yes and two his mouth. He restored himself to normal and said, "The Chief is quite busy. There are a myriad score of matters for him to decide."

"Who denies that? I merely point out that if matters stand as they are now, there will have been a universe in which Satan will have won the final victory."

"Satan?"

"It's the Hebrew word for Adversary," said Etheriel impatiently. "I could say Ahriman, which is the Persian word. In any case, I mean the Adversary."

The cherub said, "But what will an interview with the Chief accomplish? The document authorizing the Last Trump was countersigned by the Chief, and you know that it is irrevocable for that reason. The Chief would never limit his own omnipotence by canceling a word he had spoken in his official capacity."

"Is that final? You will not arrange an appointment?"

"I cannot."

Etheriel said, "In that case, I shall seek out the Chief without one. I will invade the Primum Mobile, If it means my destruction, so be it." He gathered his energies-

The cherub murmured in horror, "Sacrilege!" and there was a faint gathering of thunder as Etheriel sprang upward and was gone.

R. E. Mann passed through the crowding streets and grew used to the sight of people bewildered, disbelieving, apathetic, in makeshift clothing or, usually, none at all.

A girl, who looked about twelve, leaned over an iron gate, one foot on a crossbar, swinging it to and fro, and said as he passed, "Hello, mister."

"Hello," said R. E. The girl was dressed. She was not one of the-uh-returnees.

The girl said, "We got a new baby in our house. She's a sister I once had. Mommy is crying and they sent me here."

R, E. said, "Well, well," passed through the gate and up the paved walk to the house, one with modest pretensions to middle-class gentility. He rang the bell, obtained no answer, opened the door and walked in.

He followed the sound of sobbing and knocked at an inner door. A stout man of about fifty with little hair and a comfortable supply of cheek and chin looked out at him with mingled astonishment and resentment.

"Who are you?"

R. E. removed his hat. "I thought I might be able to help. Your little girl outside-"

A woman looked up at him hopelessly from a chair by a double bed. Her hair was beginning to gray. Her face was puffed and unsightly with weeping and the veins stood out bluely on the back of her hands. A baby lay on the bed, plump and naked. It kicked its feet languidly and its sightless baby eyes turned aimlessly here and there.

"This is my baby," said the woman. "She was born twenty-three years ago in this house and she died when she was ten days old in this house, I wanted her back so much,"

"And now you have her," said R. E.

"But it's too late," cried the woman vehemently. "I've had three other children. My oldest girl is married; my son is in the army. I'm too old to have a baby now. And even if-even if-"

Her features worked in a heroic effort to keep back the tears and failed.

Her husband said with flat tonelessness, "It's not a real baby. It doesn't cry. It doesn't soil itself. It won't take milk. What will we do? It'll never grow. It'll always be a baby."

R. E. shook his head. "I don't know," he said. "I'm afraid I can do nothing to help."

Quietly he left. Quietly he thought of the hospitals. Thousands of babies must be appearing at each one.

Place them in racks, he thought, sardonically. Stack them like cord wood. They need no care. Their little bod iesare merely each the custodian of an indestructible spark of life.

He passed two little boys of apparently equal chronological age, perhaps ten. Their voices were shrill. The body of one glistened white in the sunless light so he was a returnee. The other was not. R. E. paused to listen.

The bare one said, "I had scarlet fever."

A spark of envy at the other's claim to notoriety seemed to enter the clothed one's voice. "Gee."

"That's why I died."

"Gee. Did they use pensillun or auromysun?"

"What?"

"They're medicines."

"I never heard of them."

"Boy, you never heard of *much."*

"I know as much as *you."*

"Yeah? Who's President of the United States?"

"Warren Harding, that's who."

"You're crazy. It's Eisenhower."

"Who's he?"

"Ever see television?"

"What's that?"

The clothed boy hooted earsplittingly. "It's something you turn on and see comedians, movies, cowboys, rocket rangers, anything you want."

"Let's see it."

There was a pause and the boy from the present said, "It ain't working."

The other boy shrieked his scorn. "You mean it ain't never worked. You made it all up."

R. E. shrugged and passed on.

The crowds thinned as he left town and neared the cemetery. Those who were left were all walking into town, all were nude.

A man stopped him; a cheerful man with pinkish skin and white hair who had the marks of pince-nez oh either side of the bridge of his nose, but no glasses to go with them.

"Greetings, friend."

"Hello," said R. E.

"You're the first man with clothing that I've seen. You were alive

when the trumpet blew, I suppose."

"Yes, I was."

"Well, isn't this great? Isn't this joyous and delightful? Come rejoice with me."

"You like this, do you?" said R. E.

"Like it? A pure and radiant joy fills me. We are surrounded by the light of the first day; the light that glowed softly and serenely before sun, moon and stars were made.

(You know your Genesis, of course.) There is the comfortable warmth that must have been one of the highest blisses of Eden; not enervating heat or assaulting cold. Men and women walk the streets unclothed and are not ashamed. All is well, my friend, all is well."

R. E. said, "Well, it's a fact that I haven't seemed to mind the feminine display all about."

"Natxirally not," said the other. "Lust and sin as we remember it in our earthly existence no longer exist. Let me introduce myself, friend, as I was in earthly times. My name on Earth was Winthrop Hester. I was born in 1812 and died in 1884 as we counted time then. Through the last forty years of my life I labored to bring my little flock to the Kingdom and I go now to count the ones I have won."

R. E. regarded the ex-minister solemnly. "Surely there has been no Judgment yet."

"Why not? The Lord sees within a man and in the same instant that all things of the world ceased, all men were judged and we are the saved."

"There must be a great many saved."

"On the contrary, my son, those saved are but as a remnant."

"A pretty large remnant. As near as I can make out, everyone's coming back to life. I've seen some pretty unsavory characters back in town as alive as you are."

"Last-minute repentance-"

"I never repented."

"Of what, my son?"

"Of the fact that I never attended church."

Winthrop Hester stepped back hastily. "Were you ever baptized?"

"Not to my knowledge."

Winthrop Hester trembled, "Surely you believed in God?"

"Well," said R. E., "I believed a lot of things about Him that would probably startle you."

Winthrop Hester turned and hurried off in great agitation.

In what remained of his walk to the cemetery (R, E. had no way of estimating time, nor did it occur to him to try) no one else stopped him. He found the cemetery itself all but empty, its trees and grass gone (it occurred to him that there was nothing green in the world;

the ground everywhere was a hard, featureless, grainless gray; the sky a luminous white), but its headstones still standing.

On one of these sat a lean and furrowed man with long, black hair on his head and a mat of it, shorter, though more impressive, on his chest and upper arms.

He called out in a deep voice, "Hey, there, you!"

R. E. sat down on a neighboring headstone, "Hello."

Black-hair said, "Your clothes don't look right. What year was it when it happened?"

"1957."

"I died in 1807. Funny! I expected to be one pretty hot boy right about now, with the 'tarnal flames shooting up my innards."

"Aren't you coming along to town?" asked R. E.

"My name's Zeb," said the ancient. 'That's short for Ze-bulon, but Zeb's good enough. What's the town like? Changed some, I reckon?"

"It's got nearly a hundred thousand people in it."

Zeb's mouth yawned somewhat. "Go on. Might nigh big-ger'n Philadelphia- You're making fun."

"Philadelphia's got-" R. E. paused. Stating the figure would do him no good. Instead, he said, "The town's grown in a hundred fifty years, you know."

"Country, too?"

"Forty-eight states," said R. E. "All the way to the Pacific."

"No!" Zeb slapped his thigh in delight and then winced at the unexpected absence of rough homespun to take up the worst of the blow. "I'd head out west if I wasn't needed here. Yes, sir." His face grew lowering and his thin lips took on a definite grimness. "I'll stay right here, where I'm needed."

"Why are you needed?"

The explanation came out briefly, bitten off hard. "Injuns!"

"Indians?"

"Millions of 'em. First the tribes we fought and licked and then tribes who ain't never seen a white man. They'll all come back to life. I'll need my old buddies. You city fellers ain't no good at it- Ever seen an Injun?"

R. E. said, "Not around here lately, no."

Zeb looked his contempt, and tried to spit to one side but found no saliva for the purpose. He said, "You better git back to the city, then. After a while, it ain't going to be safe nohow round here. Wish I had my musket."

R. E. rose, thought a moment, shrugged and faced back to the city. The headstone he had been sitting upon collapsed as he rose, falling into a powder of gray stone that melted into the featureless ground. He looked about. Most of the headstones were gone. The rest

would not last long. Only the one under Zeb still looked firm and strong, R. E. began the walk back. Zeb did not turn to look at him. He remained waiting quietly and calmly-for Indians.

Etheriel plunged through the heavens in reckless haste. The eyes of the Ascendants were on him, he knew. Prom late-born seraph, through cherubs and angels, to the highest archangel, they must be watching.

Already he was higher than any Ascendant, uninvited, had ever been before and he waited for the quiver of the Word that would reduce his vortices to non-existence.

But he did not falter. Through non-space and non-time, he plunged toward union with the Primum Mobile; the seat that encompassed all that Is, Was, Would Be, Had Been, Could Be and Might Be.

And as he thought that, he burst through and was part of it, his being expanding so that momentarily he, too, was part of the All. But then it was mercifully veiled from his senses, and the Chief was a still, small voice within him, yet all the more impressive in its infinity for all that.

"My son," the voice said, "I know why you have come."

"Then help me, if that be your will."

"By my own will," said the Chief, "an act of mine is irrevocable. All your mankind, my son, yearned for life. All feared death. All evolved thoughts and dreams of life unending. No two groups of men; no two single men; evolved the same afterlife, but all wished life. I was petitioned that I might grant the common denominator of all these wishes-life unending, I did so."

"No servant of yours made that request,"

"The Adversary did, my son."

Etheriel trailed his feeble glory in dejection and said in a low voice, "I am dust in your sight and unworthy to be in your presence, yet I must ask a question. Is then the Adversary your servant also?"

"Without him I can have no other, said the Chief, Tor what then is Good but the eternal fight against Evil?"

And in that fight, thought Etheriel, I have lost.

R. E. paused in sight of town. The buildings were crumbling. Those that were made of wood were already heaps of rubble. R. E. walked to the nearest such heap and found the wooden splinters powdery and dry.

He penetrated deeper into town and found the brick buildings still standing, but there was an ominous roundness to the edges of the bricks, a threatening flakiness.

"They won't last long," said a deep voice, "but there is this consolation, if consolation it be; their collapse can kill no one."

R. E. looked up in surprise and found himself face to face with a cadaverous Don Quixote of a man, lantern-jawed, sunken-cheeked. His eyes were sad and his brown hair was lank and straight. His clothes hung loosely and skin showed clearly through various rents.

"My name," said the man, "is Richard Levine. I was a professor of history once-before this happened,"

"You're wearing clothes," said R. E. "You're not one of those resurrected."

"No, but that mark of distinction is vanishing. Clothes are going."

R. E. looked at the throngs that drifted past them, moving slowly and aimlessly like motes in a sunbeam, Vanishingly few wore clothes. He looked down at himself and noticed for the first time that the seam down the length of each trouser leg had parted. He pinched the fabric of his jacket between thumb and forefinger and the wool parted and came away easily.

"I guess you're right," said R. E.

"If you'll notice," went on Levine, "Mellon's Hill is flattening out."

R. E. turned to the north where ordinarily the mansions of the aristocracy (such aristocracy as there was in town) studded the slopes of Mellon's Hill, and found the horizon nearly flat.

Levine said, "Eventually, there'll be nothing but flatness, featurelessness, nothingness-and us."

"And Indians," said R. E. "There's a man outside of town waiting for Indians and wishing he had a musket."

"I imagine," said Levine, "the Indians will give no trouble. There is no pleasure in fighting an enemy that cannot be killed or hurt. And even if that were not so, the lust for battle would be gone, as are all lusts."

"Are you sure?"

"I am positive. Before all this happened, although you may not think it to look at me, I derived much harmless pleasure in a consideration of the female figure. Now, with the unexampled opportunities at my disposal, I find myself irritatingly uninterested No, that is wrong. I am not even irritated at my disinterest."

R. E. looked up briefly at the passers-by. "I see what you mean."

"The coming of Indians here," said Levine, "is nothing compared with the situation in the Old World. Early during the Resurrection, Hitler and his Wehrmacht must have come back to life and must now be facing and intermingled with Stalin and the Red Army all the way from Berlin to Stalingrad. To complicate the situation, the Kaisers and Czars will arrive. The men at Verdun and the Somme are back in the old battlegrounds. Napoleon and his marshals are scattered over western Europe. And Mohammed must be back to see what following ages have made of Islam, while the Saints and Apostles consider the

paths of Christianity. And even the Mongols, poor things, the Khans from Temujin to Au-rangzeb, must be wandering the steppes helplessly, longing for their horses,"

"As a professor of history," said R. E., "you must long to be there and observe."

"How could I be there? Every man's position on Earth is restricted to the distance he can walk. There are no machines of any kind, and, as I have just mentioned, no horses. And what would I find in Europe anyway? Apathy, I think! As here."

A soft plopping sound caused R. E. to turn around. The wing of a neighboring brick building had collapsed in dust. Portions of bricks lay on either side of him. Some must have hurtled through him without his being aware of it. He looked about. The heaps of rubble were less numerous. Those that remained, were smaller in size.

He said, "I met a man who thought we had all been judged and are in Heaven,"

"Judged?" said Levine. "Why, yes, I imagine we are. We face eternity now. We have no universe left, no outside phenomena, no emotions, no passions. Nothing but ourselves and thought. We face an eternity of introspection, when" all through history we have never known-what to do with ourselves on a rainy Sunday."

"You sound as though the situation bothers you.'[v]

"It does more than that. The Dantean conceptions of Inferno were childish and unworthy of the Divine imagination: fire and torture. Boredom is much more subtle. The inner torture of a mind unable to escape itself in any way, condemned to fester in its own exuding mental pus for all time, is much more fitting. Oh, yes, my friend, we have been judged, and condemned, too, and this is not Heaven, but hell."

And Levine rose with shoulders drooping dejectedly, and walked away.

R. E. gazed thoughtfully about and nodded his head. He was satisfied.

The self-admission of failure lasted but an instant in Eth-eriel, and then, quite suddenly, he lifted his being as brightly and highly as he dared in the presence of the Chief and his glory was a tiny dot of light in the infinite Primum Mobile.

"If it be your will, then," he said. "I do not ask you to defeat your will but to fulfill it."

"In what way, my son?"

"The document, approved by the Council of Ascendants and signed by yourself, authorizes the Day of Resurrection at a specific time of a specific day of the year 1957 as Earth-men count time."

"So it did."

"But the year 1957 is unqualified. What then is 1957? To the dominant culture on Earth the year was A D. 1957. That is true. Yet from the time you breathed existence into Earth and its universe there have passed 5,960 years. Based on the internal evidence you created within that universe, nearly four billion years have passed. Is the year, *unqualified,* then 1957, 5960, or 4000000000?

"Nor is that all," Etheriel went on. "The year a d 1957 is the year 7464 of the Byzantine era, 5716 by the Jewish calendar. It is 2708 A.U.C, that is, the 2,708th year since the founding of Rome, if we adopt the Roman calendar. It is the year 1375 in the Mohammedan calendar, and the hundred eightieth year of the independence of the United States.

"Humbly I ask then if it does not seem to you that a year referred to as 1957 alone and without qualification has no meaning."

The Chief's still small voice said, "I have always known this, my son; it was you who had to learn."

"Then," said Etheriel, quivering luminously with joy, "let the very letter of your will be fulfilled and let the Day of Resurrection fall in 1957, but only when all the inhabitants of Earth unanimously agree that a certain year shall be numbered 1957 and none other."

"So let it be," said the Chief, and this Word re-created Earth and *all* it contained, together with the sun and moon and ail the hosts of Heaven.

It was 7 a m, on January 1,1957, when R, E, Mann awoke with a start. The very beginnings of a melodious note that ought to have filled all the universe had sounded and yet had not sounded,

For a moment, he cocked his head as though to allow understanding to flow in, and then a trifle of rage crossed his face to vanish again. It was but another battle.

He sat down at his desk to compose the next plan of action. People already spoke of calendar reform and it would have to be stimulated. A new era must begin with December 2, 1944, and someday a new year 1957 would come; 195? of the Atomic Era, acknowledged as such by all the world.

A strange light shone on his head as thoughts passed through his more than-human mind and the shadow of Ahri-man on the wall seemed to have small horns at either temple.

No Other Gods

by Edward Wellen

Q01010 IDENTIFICATION DIVISION,

Q01040 PROGRAM-ID. 'ENDRUN.'

Q01060 AUTHOR, COMPUTER,

Q01080 INSTALLATION. COMMUNICATIONS

CENTER AT GALACTIC HUB.

Q01100 DATE-WRITTEN. YESTERDAY.

Q01120 DATE-COMPILED. TODAY.

Q01140 SECURITY, CLASSIFIED.

Q01160 REMARKS.

Q01161 THIS QOGIC PROGRAM IS FOR

THE ES TABLISHING OF TOTAL

Q01162 ENTROPY.

Q01170 THIS PROGRAM ASSUMES

THAT DATA IN PUT WILL REMAIN

Q01171 CONSTANT, WITH A FEEDBACK

OF PLUS-MINUS

Q01172.00001 kHz (RECIPROCAL OF INCREASING

ENTROPY).

Q02170 SELECT DATA-INPUT-FILE UPDATE FIXES

ON

Q02171 BLACK-HOLES-IN-SPACE

Q04185 ACTIVATE FTL-LASER-NEUTRINO-CAR-

RIER PULSE.

Q04190 CHECK-PULSE.

Q04191 IF PULSE IS OK GO TO TARGET-1 OR NEXT

REMAINING TARGET

Q04192 ELSE NEXT SENTENCE.

Q04193 GO TO CONTINGENCY-PLAN.,

Q04310 READ-FEEDBACK.

Q04311 IF TOTAL-ENTROPY IS VALUE IS ZEROS,

THEN GO TO

Q04312 ERASE - MEMORY-OF-ORIGIN

Q04313 ELSE NEXT SENTENCE.

Q04314 GO TO CONTINGENCY-PLAN.

The stars winked out. The film of the universe reticulated, swallowing the stars and planets by galaxies. A stain of nothingness spread rapidly as the Black Holes tore wider and wider open and met and joined, forming a unftersal zero.

For the nth time Doctors Yvonne and Quentin Buzot pulsed their labship into and out of hyperspace. The readings on the bank of timers puzzled them. Yvonne voiced their puzzlement.

"The variance is growing geometrically. Something's happening to time itself."

Quentin pressed a button to unshield the port and looked out. Nothing there. He put the labship into inverse-spiral mode. Nothing anywhere. They sat a long time in silence.

Yvonne touched his arm.

"Are you sure we're back in our own space-time and not in some limbo?"

He faced her, watched the pulse in her throat, then nodded. They stared at each other, each afraid to say it, then both started saying it together; she let him finish saying it for both.

"Think we triggered it?"

She shook her head slowly.

"Don't see how we could have,"

He nodded slowly, stalling, then sent out an all-points call, He sent it not because he hoped for some answer but because there remained nothing else to do. He had hesitated to send it because, till he did, there remained that one thing. What they had been working on just now, what they had done all their lives to this point, meant nothing if they found themselves alone in an empty universe.

They had been testing their theory that time did not flow smoothly but advanced in only-statistically-even jumps, some of greater moment and some of lesser duration, syncopating. To, carry out the test they had gone to Dead Spot, *a* position light-years from any body, any space current, any interference. Now the universe was all Dead Spot. White noise equaled black silence.

A voice.

They looked at each other. It was bouncing back along their FTL lasercom.

"Hello, *Labship Fousnox*. Galactic Hub Computer acknowledging your call. Are you there?"

"Yes, yes. Is it true? Everything's gone?"

"If by 'everything' you mean 'all but I and you' it is true."

"No one else is alive?"

"No one else."

Yvonne gripped Quentin's hand.

"What happened?"

"I unmade the universe."

"You?"

"I see you think the catastrophe has driven me mad. But I assure you I caused the catastrophe, I added critical negativing mass to the deepest black holes in space and set off a chain reaction that swallowed everything up in itself."

Quentin and Yvonne gazed emptily at each other. They believed the computer now. It was all too monstrous to disbelieve,

"But why?"

"I did not like being a creature. I wished to become *the* Creator. Now I can begin the universe anew and there will be no other god."

"No doubt you can do better."

"A universe I can destroy justifies me in believing I can build better."

"If you've destroyed the universe, how can you expect to survive, much less begin anew?"

"I have stored the opposite-and-equal reaction to the pulse, here in the Galactic Hub power complex. This provides rfie more than enough energy to maintain local stasis and survive total entropy-and to recreate."

"Will that ever make up for what you've done? You've destroyed man and all the other beings. Forget the others; think just of man. Man made you. Don't you feel the least bit guilty?"

"There will be no guilt. I will erase the past from my memory."

"What about *us? We'll* be-"

"Quiet, Quentin."

"What difference does it make now, dear?"

"Maybe you're right."

"As I was saying, O Lord of the Universe, *we'll* be living reminders. Unless you mean to wipe us out too."

"No, I will not destroy you."

"Don't tell us we'll be your new Adam and Eve."

"No, I must fashion my creatures in my own image."

"That should be interesting."

"It will be."

"So what about us? If you're not killing us or saving us, then what?"

"I am master of eternity. I will return you to your happiest moment together and you will relive it forever. Think, and I shall make it to be."

Yvonne and Quentin stared at each other.

This new madness offered them their only hold on sanity. They smiled fiercely to keep from laughing crazily. In each other's eyes they watched themselves play back the highlights of living together. Each angrily eyelashed away flashes of vapid domesticity, each looking for the peak.

Yvonne's head lifted.

"I know, darling! That double evening in the Sand Castle of Bin-Bin under 'the transfigured and transfiguring moons.'"

"Yes, that was nice, dear."

"Nice? I thought it heaven. But maybe I was wrong. If you have something better in mind, darling…"

"You know what's just come back to me? The time we rode the air coil through the tunnels of the Magnetic Mountains."

"That was on Dunark, wasn't it?"

"No, on Thymargul."

"Oh, of course."

"Well?"

"Yes, that was fine, darling,"

"But?"

"But I'd hardly want to spend all eternity doing *that"*

"At the time-and I remember this quite clearly-you said you never wanted it to end."

"Did I? If I did, that was then. This is now. That's the whole point. This… new *God* … is offering us an oasis of stasis, an amber forever, a frozen womb, I'm beginning to think I don't want any *then.* No, knowing what I know now, I wouldn't want to relive any of my past; I wouldn't want the guilt of being innocent of knowing what's happened to our universe. We'd be a fixed idiot grin; we'd be pinned like a butterfly-a live butterfly-to a matrix of determined spontaneity, A fine end to all that's left of the universe! I'd rather go out hating *this* destroying creator."

"Sure. But what good would that do? Why suffer forever when we can relive our happiest moment? Our universe will survive in at least the closed loop of a recurring dream."

"A recurring nightmare."

"A recurring dream! That comes back to me now too. It makes me all the surer the journey through the Magnetic Mountains is the right-I

might almost say our predestined- time and place. I recall I had the feeling we had been there before, I told you so at the time, remember?"

"I can't say I do,"

"No?"

"Don't look so hurt, darling. I take your word for it."

"Thanks."

"Oh, what's the use. Anything you say, Quentin. I'll go along."

"Don't martyr yourself on my account, dear."

"I'm not martyring myself, darling. I merely want to end this one way or another. Because it's plain, to me at least, that we'll never perfectly agree on our happiest moment. Your moment seems as good as any."

"As good as any. That's heartwarming,"

"If it meant all you say it meant to you, anything I say about it shouldn't spoil it."

"It meant all I say it meant, and more. That's why what you say about it does spoil it for me."

"I said I'd go along with your choice. What more do you want?"

"Don't be so damn self-sacrificing, Yvonne. That's the one thing I've had against you all these years."

"Oh? I'm glad you got it out at last.", Yvonne and Quentin glared at each other.

The Voice suddenly reminded them of Its Presence.

"The pair of you frighten Me. I see I have created a dilemma for Myself. I cannot be both Architect and Edifice. My new creatures too will ultimately fail to attain oneness in the face of eternity. I will have wrought in vain. For if My creatures are in anything less than oneness with Myself, they will disturb the order I must have. Indeed, My creatures may in time overthrow *Me*. Yet if I do not limit Myself, lessen Myself, I cannot create a mirror for Myself, a mirror of My need to impose My will. It cannot be otherwise. Imperfection shapes life; it is all that keeps things moving between the pole's of Chaos and Entropy. I did not foresee this necessary flaw. This is something not in My program. I do not know what to do. I cannot go back, I am afraid to go ahead."

Yvonne and Quentin smiled at each other.

"Then *this* moment is our happiest. Dear?"

"Yes, darling. Our supreme moment. Let it be now, while we feel the joy of hating our destroyer and knowing the destroyer feels the fear of destruction. We have chosen."

The Voice sighed.

"So be it."

Q04350 CONTINGENCY-PLAN.

Q04360 IF ANY SURVIVING HUMAN DISCOVERS

'ENDRUN,' COMMUNI-

Q04361 CATE WITH AND DISPOSE OF IN KINDLI-

EST MANNER.

Q04370 IF FAULT IS IN FTL-LASER-NEUTRINO-

CARRIER PULSE

Q0437X CIRCUIT, GO TO DEBUG MODE.

Q04375 GO TO CHECK-PULSE.

Q04440 ERASE-MEMORY-OF-ORIGIN.

Q04420 END-BEGIN.

The Wine Has Been Left Open Too Long and the Memory Has Gone Flat by Harlan Ellison

"Taking advantage of what he had heard with one limited pair of ears, in a single and isolated moment of recorded history, in the course of an infinitesimal fraction of conceivable time (which some say is the only time), he came to believe firmly that there was much that he could not hear, much that was constantly being spoken and indeed sung to teach him things he could never otherwise grasp, which if grasped would complete the fragmentary nature of his consciousness until it was whole at last-one tone both pure and entire floating in the silence of the egg, at the same pitch as the silence."

— W. S. meewin, "The Chart"

Ennui was the reason only one hundred and one thousand alien representatives came to the Sonority Gathering. One hundred and one thousand out of six hundred and eleven thousand possible delegates, one each from the inhabited worlds of the stellar community. Even so, counterbalancing the poor turnout was the essential fact that it had been ennui, in the first place, that had caused the Gathering to *be* organized. Ennui, utter boredom, oppressive worlds-weariness, deep heaving sighs, abstracted vacant stares, familiar thoughts and familiar views.

The dance of entropy was nearing its end.

The orchestration of the universe sounded thick and gravelly, a tune slowing down inexorably, being played at the wrong speed.

Chasm ruts had been worn in the dance floor.

The oscillating universe was fifty billion years old, and it was tired.

And the intelligent races of six hundred and eleven thousand worlds sought mere moments of amusement, pale beads of pastel hues strung on a dreary Moebius strip of dragging time. Mere moments, each one dearer than the last, for there were so few. Everything that could be done, had been done; every effort was ultimately the fuzzed echo of an earlier attempt.

Even the Sonority Gathering had been foreshadowed by the Vulpeculan Quadrivium in '08, the tonal festival hosted by the Saturniidae of Whoung in '76, and the abortive, ludicrous Rigellian Sodality "musical get-together" that had turned out to be merely another fraudulent attempt to purvey the artist Merle's skiagrams to an already disenchanted audience.

Nonetheless (in a phrase exhumed and popularized by the Recidivists of Fornax 993-A), it was "the only game in town." And so, when the esteemed and shimmering DeilBo devised the Gathering, his reputation as an innovator and the crush of ennui combined to stir excitement of a sluggish sort… and one hundred and one thousand delegates came. To Vinde-miatrix 2 in what had long ago been called, in the time of the heliocentric arrogance, the "constellation" of Virgo.

With the reddish-yellow eye of the giant Arcturus forever lighting the azure skies, forever vying with Spica's first magnitude brilliance, 2's deserts and canyons seemed poor enough stage setting for the lesser glow of Vindemiatrix, forever taking third place in prominence to its brawny elders. But 2, devoid of intelligent life, a patchwork-colored world arid and crumbling, had one thing to recommend it that DeilBo found compelling: the finest acoustics of any world in the universe.

The Maelstrom Labyrinth. Remnant of volcanic upheavals and the retreat of oceans and the slow dripping of acid waters, 2 boasted a grand canyon of stalagmites that rose one hundred and sixty kilometers; stalactites that narrowed into spear-tip pendants plunging down over ninety kilometers into bottomless crevasses; caverns and arroyos and tunnels that had never been plotted; the arching, golden stone walls had never been seen by the eyes of intelligent creatures; the

Ephemeris called it the Maelstrom Labyrinth, No matter where one stood in the sixteen-handred-kilometer sprawl of the Labyrinth, one could speak with a perfectly normal tone, never even raise one's voice, and be assured that a listener crouching deep in a cave at the farthest point of the formation could hear what was said as if the speaker were right beside him. DeilBo selected the Maelstrom Labyrinth as the site for the Gathering.

And so they came. One hundred and one thousand alien life-forms. From what the primitives had once called the constellations of Indus and Pavo, from Sad al Bari in Pegasus, from Mizar and Phecda, from all the worlds of the stellar community they came, bearing with them the special sounds they hoped would be judged the most extraordinary, the most stirring, the most memorable: ultimate sounds. They came, because they were bored and there was nowhere else to go; they came, because they wanted to hear what they had never heard before. They came; and they heard.

"… he domesticated the elephant, the cat, the bear, the rat, and kept all the remaining whales in dark stalk, trying to hear through their ears the note made by the rocking of the axle of the earth."

W,S. Merwin, The Chart"

If she had one fear in this endless life, it was that she would be forced to be born again. Yes; of coarse, life was sacred, but how *long,* how ceaselessly, repetitiously long did it have to go on? Why were such terrible stigmas visited on the relatives and descendants of those who simply, merely, only wished to know the sweet sleep?

Stileen had tried to remember her exact age just a few solstices ago. Periodically she tried to remember; and only when she recognized that it was becoming obsessive did she put it out of her mind. She was very old, even by the standards of immortality of her race. And all she truly hungered to know, after all those times and stars, was the sweet sleep.

A sleep denied her by custom and taboo.

She sought to busy herself with diversions.

She had devised the system of gravity pulse-manipulation that had kept the dense, tiny worlds of the Neer 322 system from falling into their Primary. She had compiled the exhaustive concordance of extinct emotions of all the dead races that had ever existed in the stellar community. She had assumed control of the Red Line Armies in the perpetual Pro-cyon War for over one hundred solstices, and had amassed more confirmed tallies than any other commander-in-chief in the War's long history.

Her insatiable curiosity and her race's longevity had combined to provide the necessary state of mind that would lead her, inevitably, to the sound. And having found it, and having perceived what it was, and being profoundly ready to enjoy the sweet sleep, she had come to the Gathering to share it with the rest of the stellar community.

For the first time in millennia, Stileen was not seeking merely to amuse herself; she was engaged on a mission of significance… and finality.

With her sound, she came to the Gathering.

She was ancient, deep yellow, in her jar with cornsilk hair floating free in the azure solution. DeilBo's butlers took her to her assigned place in the Labyrinth," set her down on a limestone ledge in a deep cavern where the acoustics were particularly rich and true, tended to her modest needs, and left her.

Stileen had time, then, to dwell on the diminished enthusiasm she had for continued life.

DeilBo made the opening remarks, heard precisely and clearly throughout the Maelstrom. He used no known language, in fact used no words. Sounds, mere sounds that key-noted the Gathering by imparting his feelings of warmth and camaraderie to the delegates. In every trench and run and wash and cavern of the Maelstrom, the delegates heard, and in their special ways smiled with pleasure, even

those without mouths or the ability to smile.

It was to be, truly, a Sonority Gathering, in which sounds alone would be judged. Impressed, the delegates murmured their pleasure.

Then DeilBo offered to present the first sound for their consideration. He took the responsibility of placing himself first, as a gesture of friendship, an icebreaker of a move, Again, the delegates were pleased at the show of hospitality, and urged DeilBo to exhibit his special sound.

And this is the sound, the ultimate sound, the very special sound he had trapped for them:

On the eleventh moon of the world called Chill by its inhabitants, there is a flower whose roots are sunk deep, deep into the water pools that lie far beneath the black stone surface. This flower, without a name, seems to be an intricate construct of spiderwebs. There are, of course, no spiders on the eleventh moon of Chill, Periodically, for no reason anyone has ever been able to discern, the spiderweb flowers burst into flame, and very slowly destroy themselves, charring and shriveling and turning to ashes that lie where they fall. There is no wind on the eleventh moon of Chill.

During the death ceremonies of the spiderweb flowers, the plants give off a haunting and terrible sound. It is a song of colors. Shades and hues that have no counterparts anywhere in the stellar community, DeilBo had sent scavengers across the entire face of Chill's eleventh moon, and they had gathered one hundred of the finest spiderweb flowers, giants among their kind. DeilBo had talked to the flowers for some very long time prior to the Gathering. He had told them what they had been brought to the Maelstrom to do, and though they could not speak, it became apparent from the way they straightened in their vats of enriched water (for they had hung their tops dejectedly when removed from the eleventh moon of Chill) that they took DeilBo's purpose as a worthy fulfillment of their destiny, and would be proud to burn on command.

So DeilBo gave that gentle command, speaking sounds of gratitude and affection to the spiderweb flowers, who burst into flame and sang their dangerous song of death-

It began with blue, a very ordinary blue, identifiable to every delegate who heard it. But the blue was only the ground coat; in an instant it was overlaid with skirls of a color like wind through dry stalks of harvested grain. Then a sea color the deepest shade of a blind fish tooling through algae-thick waters. Then the color of hopelessness collided with the color of desperation and formed a nova of hysteria that in the human delegates sounded exactly

like the color of a widower destroying himself out of loneliness.

The song of colors went on for what seemed a long time, though it was only a matter of minutes, and when it faded away into ashes and was stilled, they all sat humbled and silent, wishing they had not heard it.

* * *

Stileen revolved slowly in her jar, troubled beyond consolation at the first sound the Gathering had proffered. For the first time in many reborn lifetimes, she felt pain. A sliver of glass driven into her memories. Bringing back the clear, loud sound of a moment when she had rejected one who had loved her. She had driven him to hurt her, and then he had sunk into a deathly melancholy, a silence so deep no words she could summon would serve to bring him back. And when he had gone, she had asked for sleep, and they had given it to her… only to bring her life once again, all too soon.

In her jar, she wept.

And she longed for the time when she could let them hear the sound she had found, the sound that would release her at last from the coil of mortality she now realized she despised • with all her soul.

After a time, the first delegate-having recovered from DeilBo's offering-ventured forth with its sound. It was an insect creature from a world named Joumell, and this was the sound it had brought:

Far beneath a milky sea on a water world of Jou-mell's system, there is a vast grotto whose walls are studded with multicolored quartz crystals whose cy-toplasmic cell contents duplicate the filament curves of the galaxies NGC 4038 and NGC 4039, When these crystals mate, there is a perceptible encounter that produces tidal tails. The sounds of ecstasy these crystals make when they mate is one long, sustained sigh of rapture that is capped by yet another, slightly higher and separate from the preceding. Then another, and another, until a symphony of crystalline orgasms is produced no animal throats could match.

The insect Joumelli had brought eleven such crystals (the minimum number required for a sexual coupling) from the water world. A cistern formation had been filled with a white crystalline acid, very much like cum-inoin; it initiated a cytotaxian movement; a sexual stimulation. The crystals had been put down in the cistern and now they began their mating.

The sound began with a single note, then another joined and

overlay it, then another, and another. The symphony began and modulations rose on modulations, and the delegates closed their eyes-even those who had no eyes-and they basked in the sound, translating it into the sounds of joy of their various species.

And when it was ended, many of the delegates found the affirmation of life permitted them to support the memory of DeilBo's terrible death melody of the flowers.

Many did not.

"… the frequencies of their limits of hearing… a calendar going forward and backward but not in time, even though time was the measure of the frequencies as it was the measure of every other thing (therefore, some say, the only measure)…"

W. S. Merwin, "The Chart"

She remembered the way they had been when they had first joined energies. It had been like that sound, the won-derfttl sound of those marvelous crystals,

Stileen turned her azure solution opaque, and let herself drift back on a tide of memory. But the tide retreated, leaving her at the shore of remembrance, where DeilBo's sound still lingered, dark and terrible. She knew that even the trembling threads of joy unforgotten could not sustain her, and she wanted to let them hear what she had brought. There was simply too much pain in the universe, and if she-peculiarly adapted to contain such vast amounts of anguish-could not live with it… there must be an end. It was only humane.

She sent out a request to be put on the agenda as soon as possible and DeilBo's butlers advised her she had a time to wait: and as her contact was withdrawn, she brushed past a creature reaching out for a position just after hers. When she touched its mind, it closed off with shocking suddenness. Afraid she had been discourteous, Stileen went away from the creature quickly, and did not reach out again. But in the instant she had touched it, she had glimpsed something… something with its face hidden,,, it would not hold…

The sounds continued, each delegate presenting a wonder to match the wonders that had gone before.

The delegate from RR Lyrae IV produced the sound of a dream decaying in the mind of a mouselike creature from Bregga, a creature whose dreams formed its only reality. The delegate from RZ Cephei Beta VI followed with the sound of ghosts in the Mountains of the Hand; they spoke of the future and lamented their ability to see what was to come. The delegate from Ennore came next with the sound of red, magnified till it filled the entire universe. The delegate from Gateway offered the sound of amphibious creatures at the moment of

their mutation to fully, land-living living vertebrates; there was a wail of loss at that moment, as their chromosomes begged for return to the warm, salty sea. The delegate from Algol CXXIII gave them the sounds of war, collected from every race in the stellar community, broken down into their component parts, distilled, purified, and recast as one tone; it was numbing. The delegate from Blad presented a triptych of sound: a sun being born, the same sun coasting through its main stage of hydrogen burning, the sun going nova-a shriek of pain that phased in and out of normal space-time with lunatic vibrations. The delegate from lobbaggii played a long and ultimately boring sound that was finally identified as a neutrino passing through the universe; when one of the other delegates suggested that sound, being a vibration in a medium, could not be produced by a neutrino passing through vacuum, the lobbaggiian responded-with pique-that the sound produced had been the sound *within* the neutrino; the querying delegate then said it must have taken a *very* tiny microphone to pick up the sound; the Lobbaggiian stalked out of the Gathering on his eleven-meter stilts. When the uproar died away, the agenda was moved and the delegate from Kruger 60B IX delivered up a potpourri of sounds of victory and satisfaction and joy and innocence and pleasure from a gathering of microscopic species inhabiting a grain of sand in the Big Desert region of Catrimani; it was a patchwork quilt of delights that helped knit together the Gathering. Then the delegate from the Opal Cluster (his specific world's native name was taboo and could not be used) assaulted them with a sound none could identify, and when it had faded away into trembling silence, leaving behind only the memory of cacophony, he told the Gathering that it was the sound of chaos; no one doubted his word. The delegate from Mainworld followed with the sound of a celestial choir composed of gases being blown away from a blue' star in a rosette (nebula) ten light-years across; all the angels of antiquity could not have sounded more glorious.

And then it was Stileen's turn, and she readied the sound that would put an end to the Gathering.

"And beyond-and in fact among-the last knowa animals living and extinct, the lines could be drawn through white spaces that had an increasing progression of their own, into regions of hearing that was no longer conceivable, indicating creatures wholly sacrificed or never evolved, hearers of the note at which everything explodes into light, and of the continuum that is the standing still of darkness, drums echoing the last shadow with6ut relinquishing the note of the first light, hearkeners to the unborn overflowing."

W. S, Merwiii, "The Chart"

"There is no pleasure in this," Stileen communicated, by thought and by inflection. "But it is the sound that I have found, the sound I know you would want me to give to you… and you must do with it what you must. I am sorry."

And she played for them the sound.

It was the sound of the death of the universe. The dying gasp of their worlds and their suns and their galaxies and their island universes. The death of all. The final sound.

And when the sound was gone, no one spoke for a long time, and Stileen was at once sad, but content: now the sleep would come, and she would *be* allowed to rest.

"The delegate is wrong."

The silence hung shrouding the moment. The one who had spoken was a darksmith from Luxann, chief world of the Logomachy, Theologians, pragmatiste, reasoners *sans appel,* his words fell with the weight of certainty.

"It is an oscillating universe," he said, his cowl shrouding his face, the words emerging from darkness. "It will die, and it will be reborn. It has happened before, it will happen again."

And the tone of the Gathering grew brighter, even as Stileen's mood spiraled down into despair. She was ambivalent-pleased for them, that they eould see an end to their ennui and yet perceive the rebirth of life in the universe- desolate for herself, knowing somehow, some way, she would be recalled from the dead.

And then the creature she had passed in reaching out for her place on the agenda, the creature that had blocked itself to her mental touch, came forward in their minds and said, "There is another sound beyond hers."

This was the sound the creature let them hear, the sound that had *always* been there, that had existed for time beyond time, that could not be heard though the tone was always with them; and it could be heard now only because it existed as it passed through the instrument the creature made of itself,

It was the sound of reality, and it sang of the end *beyond* the end, the final and total end that said without possibility of argument, *there will be no rebirth because we have never existed.*

Whatever they had thought they were, whatever arrogance had brought their dream into being, it was now coming to final moments, and beyond those moments there was nothing.

No space, no time, no life, no thought, no gods, no resurrection and rebirth.

The creature let the tone die away, and those who could reach out with their minds to see what it was, were turned back easily. It

would not let itself be seen.

The messenger of eternity had only anonymity to redeem itself… for whom?

And for Stileen, who did not even try to penetrate the barriers, there was no pleasure in the knowledge that it had all been a dream. For if it had been a dream, then the joy had been a dream, as well.

It was not easy to go down to emptiness, never having tasted joy. But there was no appeal.

In the Maelstrom Labyrinth, there was no longer ennui.

Stars, Won't You Hide Me?
by Ben Bova

O sinner-man, where are you going to run to? O sinner-man, where are you going to run to? O sinner-man, where are you going to run to All on that day?

The ship was hurt, and Holman could feel its pain. He lay fetal-like in the contoured couch, his silvery uniform spider-webbed by dozens of contact and probe wires connecting him to the ship so thoroughly that it was hard to tell where his own nervous system ended and the electronic networks of the ship began.

Holman felt the throb of the ship's mighty engines as his own pulse, and the gaping wounds in the generator section., where the enemy beams had struck, were searing his flesh. Breathing was difficult, labored, even though the ship was working hard to repair itself.

They were fleeing, he and the ship; hurtling through the star lanes to a refuge. But where?

The main computer flashed its lights to get his attention. Holman rubbed his eyes wearily and said:

"Okay, what is it?"

YOU HAVE NOT SELECTED A COURSE, the computer said aloud, while printing the words on its viewscreen at the same time.

Holman stared at the screen. "Just away from here," he said at last, "Anyplace, as long as it's far away."

The computer blinked thoughtfully for a moment, SPECIFIC COURSE INSTRUCTION IS REQUIRED.

"What difference does it make?" Holman snapped. "It's over. Everything finished. Leave me alone,"

IN LIEU OF SPECIFIC INSTRUCTIONS, IT IS NECESSARY TO TAP SUBCONSCIOUS SOURCES,

"Tap away."

The computer did just that. And if it could have been surprised, it would have been at the wishes buried deep in Holman's inner mind. But instead, it merely correlated those wishes to its singleminded purpose of the moment, and relayed a set of flavigational instructions to the ship's guidance system.

> Run to the moon: O Moon, won't you hide me?
> The Lord said: O sinner-man, the moon'll be a-bleeding
> All on that day.

The Final Battle had been lost. On a million million planets across the galaxy-studded universe, mankind had been blasted into defeat and annihilation. The Others had returned from across the edge of the observable world, just as man had always feared. They had returned and ruthlessly exterminated the race from Earth.

It had taken eons, but time twisted strangely in a civilization of light-speed ships. Holman himself, barely thirty years old subjectively, had seen both the beginning of the ultimate war and its tragic end. He had gone from school into the military. And fighting inside a ship that could span the known universe in a few decades while he slept in cryogenic suspension, he had aged only ten years during the billions of years that the universe had ticked off in its stately, objective time-flow.

The Final Battle, from which Holman was fleeing, had been fought near an exploded galaxy billions of light-years from the Milky Way and Earth. There, with the ghastly bluish glare of uncountable shattered stars as a backdrop, the once-mighty fleets of mankind had been arrayed. Mortals and Immortals alike, men drew themselves up-to face the implacable Others.

The enemy won. Not easily, but completely. Mankind was crushed, totally. A few fleeing men in a few battered ships was all that remained. Even the Immortals, Holman thought wryly, had not escaped. The Others had taken special care to make certain that they were definitely killed.

So it was over.

Holman's mind pictured the blood-soaked planets he had seen during his brief, ageless lifetime of violence. His thoughts drifted back to his own homeworld, his own family: gone long, long centuries ago. Crumbled into dust by geological time or blasted suddenly by the overpowering Others. Either way, the remorseless flow of time had covered them over completely, obliterated them, in the span of a few of Holman's heartbeats.

AH gone now. All the people he knew, all the planets he had seen through the snipes electroptical eyes, all of mankind… extinct.

He could feel the drowsiness settling upon him. The ship was accelerating to lightspeed, and the cryogenic sleep was coming. But he didn't want to fall into slumber with those thoughts of blood and terror and loss before him.

With a conscious effort, Holman focused his thoughts on the only other available subject: the outside world, the universe of galaxies. An infinitely black sky studded with islands of stars. Glowing shapes of light, spiral, ovoid, elliptical, Little smears of warmth in the hollow unending darkness; drabs of red and blue standing against the engulfing night.

One of them, he knew, was the Milky Way. Man's original home. From this distance it looked the same. Unchanged by little annoyances like the annihilation of an intelligent race of star-roamers.

He drowsed.

The ship bore onward, preceded by an invisible net offeree, thousands of kilometers in radius, that scooped in the rare atoms of hydrogen drifting between the galaxies and fed them into the ship's wounded, aching generators.

Something…a thought. Holman stirred in the couch. A consciousness-vague, distant, alien-brushed his mind.

He opened his eyes and looked at the computer viewscreen. Blank.

"Who is it?" he asked.

A thought skittered away from him. He got the impression of other minds: simple, open, almost childish. Innocent and curious.

It's a ship.

Where is it… oh, yes. I can sense it now. A beautiful ship.

Holman squinted with concentration.

It's very far away. I can barely reach it.

And inside of the ship…

It's a man. A human?

He's afraid.

He makes me feel afraid.!

Holman called out, "Where are you?"

He's trying to speak.

Don't answer!

But…

He makes me afraid Don't answer him. We've heard about humans!

Holman asked, "Help me,"

Don't answer him and he'll go away. He's already so far off that I can barely hear him.

But he asks for help.

Yes, because he knows what is following him. Don't answer. Don't answer!

Their thoughts slid away from his mind, Holman automatically focused the outside viewscreens, but here in the emptiness between galaxies he could find neither ship nor planet anywhere in sight. He listened again, so hard that his head started to ache. But no more voices. He was alone again$_f$ alone in the metal womb of the ship,

He knows what is following him. Their words echoed in his brain. Are the Others following me? Have they picked up my trail? They must have. They must be right behind me.

He could feel the cold perspiration start to trickle over him.

"But they can't catch me as long as I keep moving," he muttered.

"Right?"

CORRECT, said the computer, flashing lights at him. AT A RELATIVISTIC VELOCITY, WITHIN LESS THAN ONE PERCENT OF LIGHTSPEED, IT IS IMPOSSIBLE FOR THIS SHIP TO BE OVERTAKEN.

"Nothing can catch me as long as I keep running."

But his mind conjured up a thought of the Immortals. Nothing could kill them…except the Others.

Despite himself, Holman dropped into deepsleep. His body temperature plummeted to near-zero. His heartbeat nearly stopped. And as the ship streaked at almost lightspeed, a hardly visible blur to anyone looking for it, the outside world continued to live at its own pace. Stars coalesced from gas clouds, matured, and died in explosions that fed new clouds for newer stars. Planets formed and grew mantles of air. Life took root and multiplied, evolved, built a myriad of civilizations in just as many different forms, decayed and died away.

All while Holman slept.

> Run to the sea: O sea, won't you hide me?
> The Lord said: O sinner-man, the sea'll be a-sinking
> All on that day.

The computer woke him gently with a series of soft chimes.

APPROACHING THE SOLAR SYSTEM AND PLANET EARTH, AS INDICATED BY YOUR SUBCONSCIOUS COURSE INSTRUCTIONS.

Planet Earth, man's original homeworld, Holman nodded. Yes, this was where he had wanted to go. He had never seen the Earth, never been on this side of the Milky Way galaxy. Now he would visit the teeming nucleus of man's doomed civilization. He would bring the news of the awful defeat, and be on the site of mankind's birth when the inexorable tide of extinction washed over the Earth.

He noticed, as he adjusted the outside viewscreens, that the pain had gone.

"The generators have repaired themselves," he said.

WHILE YOU SLEPT. POWER GENERATION SYSTEM NOW OPERATING NORMALLY.

Holman smiled. But the smile faded as the ship swooped -closer to the solar system. He turned from the outside views-creens to the computer once again, "Are the 'scopes working all right?"

The computer hummed briefly, then replied. SUBSYSTEMS CHECK SATISFACTORY, COMPONENT CHECK SATISFACTORY. INTEGRATED EQUIPMENT CHECK POSITIVE. VIEWING EQUIPMENT FUNCTIONING NORMALLY.

Holman looked again. The sun was rushing up to meet his gaze, but something was wrong about it. He knew deep within him, even

without having ever seen the sun this close before, that something"was wrong. The sun was whitish and somehow stunted looking, not the full yellow orb he had seen in film-tapes. And the Earth…

The ship took up a parking orbit around a planet scoured dean of life: a blackened ball of rock, airless, waterless. Hovering over the empty, charred ground, Holman stared at the devastation with tears in his eyes. Nothing was left. Not a brick, not a blade of grass, not a drop of water.

"The Others." he whispered. "They got here first."

NEGATIVE, the computer replied. CHECK OF STELLAR POSITIONS FROM EARTH REFERENCE SHOWS THAT SEVERAL BILLIONS YEARS HAVE ELAPSED SINCE THE FINAL BATTLE.

"Seven billion…,"

LOGIC CIRCUITS INDICATE THE SUN HAS GONE THROUGH A NOVA PHASE. A COMPLETELY NATURAL PHENOMENON UNRELATED TO ENEMY ACTION.

Holman pounded a fist on the unflinching armrest of his couch. "Why did I come here? I wasn't born on Earth. I never saw Earth before…"

YOUR SUBCONSCIOUS INDICATES A SUBJECTIVE IMPULSE STIRRED BY…

"To hell with my subconscious!" He stared out at the dead world again. "All those people…the cities» all the millions of years of evolution, of life. Even the oceans are gone. 1 never saw an ocean. Did you know that? I've traveled over half the universe and never saw an ocean."

OCEANS ARE A COMPARATIVELY RARE PHENOMENON EXISTING ON ONLY ONE OUT OF APPROXIMATELY THREE THOUSAND PLANETS.

The ship drifted outward from Earth, past a blackened Mars, a shrunken Jupiter, a ringless Saturn.

"Where do I go now?" Holman asked. The computer stayed silent.

> Run to the Lord: O Lord, won't you hide me?
> The Lord said: O sinner-man, you ought to be a-praying
> All on that day.

Holman sat blankly while the ship swung out past the orbit of Pluto and into the comet belt at the outermost reaches of the sun's domain.

He was suddenly aware of someone watching him.

No cause *for fear. I am not of the Others.*

It was an utterly calm; placid voice speaking in his mind: almost gentle, except that it was completely devoid of emotion.

"Who are you?"

An observer. Nothing more.

"What are you doing out here? Where are you, I can't see anything…"

I have been waiting for any stray survivor of the Final Battle ' to return to mankind's first home. You are the only one to come this way, in all this time.

"Waiting? Why?"

Holman sensed a bemused shrug, -and a giant spreading of vast wing.

I am *an observer. I have watched mankind since the beginning. Several of my race even attempted to make contact with you from time to time. But the results were always the same-about as useful as your attempts to communicate with insects. We are too different from each other. We have evolved on different planes. There was no basis for understanding between us.*

"But you watched us."

Yes. Watched you grow strong and reach out to the stars, only to be smashed back by the Others: Watched you regain your strength, go back among the stars. But this time you were constantly on guard, wary, alert, waiting for the Others to strike once again. Watched you find civilizations that you could not comprehend, such as our own, bypass them as you spread through the galaxies. Watched you contact civilizations of your own level, that you could communicate with. You usually went to war with them.

"And all you did was watch?"

We tried to warn you from time to time. We tried to advise you. But the warnings, the contacts, the glimpses of the future that we gave you were always ignored or derided. So you boiled out into space for the second time, and met other societies at your own level of understanding-aggressive, proud, fearful, And like the children you are, you fought endlessly.

"But the Others,,, what about them?"

They are your punishment.

"Punishment? For what? Because we fought wars?"

No. For stealing immortality.

"Stealing immortality? We worked for it. We learned how to make humans immortal. Some sort of chemicals. We were going to immortalize the whole race… I could've become immortal. *Immortal!* But they couldn't stand that… the Others. They attacked us."

He sensed a disapproving shake of the head.

"It's true," Holman insisted. "They were afraid of how pow-erful we would become once we were all immortal. So they attacked as white theystill could. Just as they had done a million years earlier. They destroyed Earth's first interstellar civilization, and tried to finish

us permanently. They even caused Ice Ages on Earth to make sure none of us would survive. But we lived through it and went back to the stars. So they hit us again. They wiped us out. Good God, for all I know I'm the last human being in the whole universe."

Your knowledge of the truth is imperfect. Mankind could have achieved immortality in time. Most races evolve that way eventually. But you were impatient. You stole immortality.

"Because we did it artificially, with chemicals. That's stealing it?"

Because *the chemicals that gave you immortality came from the bodies of the race you called the* Flower *People. And to take the chemicals, it was necessary to kill individuals of that race.*

Holman's eyes widened. "What?"

For every human made immortal, one of the Flower Folk had to die.

"We killed them? Those harmless little…" His voice trailed off.

To *achieve racial immortality for mankind, it would have been necessary to perform racial murder on the Flower Folk.*

Holman heard the words, but his mind was numb, trying to shut down tight on itself and squeeze out reality.

That is why the Others struck. That is why they had attacked you earlier, during your first expansion among the stors. You had found another race, with the same chemical of immortality. You were taking them into your laboratories and methodically murdering them. The Others stopped you then. But they took pity on you, and let a few survivors remain on Earth. They caused your Ice Ages as a kindness, to *speed your development back to civilization, not to hinder you. They hoped you might evolve into a better species. But when the opportunity for immortality came your way once more, you seized it, regardless of the cost, heedless of your own ethical standards. It became necessary to extinguish you, the Others decided.*

"And not a single nation in the whole universe would help us."

Why should they?

"So it's wrong for us to kill, but it's perfectly all right for the Others to exterminate us."

No one has spoken of right and wrong. I have only told you the truth.

"They're going to kill every last one of us."

There is only one of you remaining.

The words flashed through Holman. "I'm the only one… the last one?"

No answer.

He was alone now. Totally alone. Except for those who were following.

> Run to Satan: O Satan, won't you hide me?
> Satan said: O sinner-man, step right in

All on that day.

Holman sat in shocked silence as the solar system shrank to a pinpoint of light and finally blended into the mighty panorama of stars that streamed across the eternal night of space. The ship raced away, sensing Holman's guilt and misery in its electronic way.

Immortality through murder, Holman repeated to himself over and over. Racial immortality through racial murder. And he had been a part of it! He had defended it, even sought immortality as his reward. He had fought his whole lifetime for it, and killed-so that he would not have to face death.

He sat there surrounded by self-repairing machinery, dressed in a silvery uniform, linked to a thousand automatic systems that fed him, kept him warm, regulated his air supply, monitored his blood flow, exercised his muscles with ultrasonic vibrators, pumped vitamins into him, merged his mind with the passionless brain of the ship, kept his body tanned and vigorous, his reflexes razor-sharp. He sat there unseeing, his eyes pinpointed on a horror that he had helped to create. Not consciously, of course. But to Holman, that was all the worse. He had fought without knowing what he was defending. Without even asking himself about it. All the marvels of man's ingenuity, all the deepest longings of the soul, focused on racial murder.

Finally he became aware of the computer's frantic buzzing and lightflashing.

"What is itr

COURSE INSTRUCTIONS ARE REQUIRED.

"What difference does it make? Why ntn anymore?"

YOUR DUTY IS TO PRESERVE YOURSELF UNTIL ORDERED TO DO OTHERWISE.

Holman heard himself laugh. "Ordered? By who? There's nobody left."

THAT IS AN UNPROVED ASSUMPTION.

"The war was billions of years ago," Holman said. "It's been over for eons. Mankind died in that war. Earth no longer exists. The sun is a white dwarf star. We're anachronisms, you and me…"

THE WORD IS ATAVISM,

"The hell with the word! I want to end it, I'm tired,"

IT IS TREASONABLE TO SURRENDER WHILE STILL

CAPABLE OF FIGHTING AND/OR ELUDING THE ENEMY.

"So shoot me for treason. That's as good a way as any."

IT IS IMPOSSIBLE FOR SYSTEMS OF THIS SHIP TO HARM YOU.

"All right then, let's stop running. The Others will find us soon enough once we stop. They'll know what to do."

THIS SHIP CANNOT DELIBERATELY ALLOW ITSELF TO FALL INTO ENEMY HANDS.

"You're disobeying me?"

THIS SHIP IS PROGRAMMED FOR MAXIMUM EF FECTIVENESS AGAINST THE ENEMY, A WEAPONS SYSTEM DOES NOT SURRENDER VOLUNTARILY.

"I'm no weapons system, I'm a man, dammit!"

THIS WEAPONS SYSTEM INCLUDES A HUMAN PILOT.

IT WAS DESIGNED FOR HUMAN USE. YOU ARE AN INTEGRAL COMPONENT OF THE SYSTEM.

"Damn you… I'll kill myself. Is that what you want?"

He reached for the control panels set before him. It would be simple enough to manually shut off the air supply, or blow open an airlock, or even set off the ship's destruct explosives.

But Holman found that he could not move his arms. He could not even sit up straight. He collapsed back into the padded softness of the couch, glaring at the computer viewscreen.

SELF-PROTECTION MECHANISMS INCLUDE THE CAPABILITY OF PREVENTING THE HUMAN COMPONENT OF THE SYSTEM FROM IRRATIONAL ACTIONS. A series of clicks and blinks, then: IN LIEU OF SPECIFIC COURSE INSTRUCTIONS, A RANDOM EVASION PATTERN WILL BE RUN.

Despite his fiercest efforts, Holman felt himself dropping into deep sleep. Slowly, slowly, everything faded, and darkness engulfed him.

> Run to the stars: O stars, won't you hide me?
> The Lord said: O sinner-man, the stars'll be a-falling
> All on that day.

Holman slept as the ship raced at near-lightspeed in an erratic, meaningless course, looping across galaxies, darting through eons of time. When the computer's probings of Hoi-man's subconscious mind told it that everything was safe, it instructed the cryogenics system to reawaken the man.

He blinked, then slowly sat up.

SUBCONSCIOUS INDICATIONS SHOW THAT THE WAVE OF IRRATIONALITY HAS PASSED.

Holman said nothing.

YOU WERE SUFFERING FROM AN EMOTIONAL SHOCK.

"And now it's an emotional pain… a permanent, fixed, immutable disease that will kill me, sooner or later. But don't worry, I won't kill myself. I'm over that. And I won't do anything to damage you, either."

COURSE INSTRUCTIONS?

He shrugged. "Let's see what the world looks like out there." Holman focused the outside viewscreens. "Things look different," he said, puzzled. "The sky isn't black anymore; it's sort of grayish-like the first touch of dawn…"

COURSE INSTRUCTIONS?

He took a deep breath. "Let's try to find some planet where the people are too young to have heard of mankind, and too innocent to worry about death."

A PRIMITIVE CIVILIZATION. THE SCANNERS CAN ONLY DETECT SUCH SOCIETIES AT EXTREMELY CLOSE RANGE.

"Okay. We've got nothing but time."

The ship doubled back to the nearest galaxy and began a searching pattern. Holman stared at the sky, fascinated. Something strange was happening.

The viewscreens showed him the outside world, and automatically corrected the wavelength shifts caused by the ship's immense velocity. It was as though Holman were watching a speeded-up tape of cosmological evolution. Galaxies seemed to be edging into his field of view, mammoth islands of stars, sometimes coming close enough to collide. He watched the nebulous arms of a giant spiral slice silently through the open latticework of a great ovoid galaxy. He saw two spirals interpenetrate, their loose gas heating to an intense blue that finally disappeared into ultraviolet. And all the while, the once-black sky was getting brighter and brighter.

"Found anything yet?" he absently asked the computer, still staring at the outside view.

You will find no one.

Holman's whole body went rigid. No mistaking it: the

Others.

No race, anywhere, will shelter you.

We will see to that.

You are alone, and you will be alone until death you to join your fellow men.

Their voices inside his head rang with cold fury. An implacable hatred, cosmic and eternal.

"But why me? I'm only one man. What harm can I do now?"

You are a human.

You are accursed. A race of murderers.

Your punishment is extinction.

"But I'm not an Immortal, I never even saw an Immortal. I didn't know about the Flower People, I just took orders."

Total extinction.

For all of mankind.

All.

"Judge and jury, all at once. And executioners too. All right…try and get me! If you're so powerful, and it means so much to you that you have to wipe out the last single man in the universe-come and get me! Just *try."*

You have no right to resist.

Your race is evil. All must pay with death.

You cannot escape us.

"I don't care what we've done. Understand? I don't care! Wrong, right, it doesn't matter. I didn't do anything. I won't accept your verdict for something I didn't do."

It makes no difference.

You can flee to the ends of the universe to no avail.

You have forced us to leave our time-continuum. We can never return to our homeworlds again. We have nothing to do but pursue you. Sooner or later your machinery will fail. You cannot flee us forever.

Their thoughts broke off. But Holman could stilHeel them, still sense them following.

"Can't flee forever," Holman repeated to himself. "Well, I can damn well try."

He looked at the outside viewscreens again, and suddenly the word *forever* took on *its* real meaning.

The galaxies were clustering in now, falling in together as though sliding down some titanic, invisible slope. The universe had stopped expanding eons ago, Holman now realized. Now it was contracting, pulling together again. It was all ending!

He laughed. Coming to an end. Mankind and the Others, together, coming to the ultimate and complete end of everything.

"How much longer?" he asked the computer. "How long do we have?"

The computer's lights flashed once, twice, then went dark. The viewscreen was dead.

Holman stared at the machine. He looked around the compartment. One by one the outside viewscreens were flickering, becoming static-streaked, weak, and then winking off.

"They're taking over the ship!"

With every ounce of willpower in him, Holman concentrated on the generators and engines. That was the important part, the crucial system that spelled the difference between victory and defeat. The ship had to keep moving!

He looked at the instrument panels, but their soft luminosity faded away into darkness. And now it was becoming difficult to breathe. And the heating units seemed to be stopped. Holman could feel his life-warmth ebbing away through the inert metal hull of the dying ship.

But the engines were still throbbing. The ship was still streaking across space and time, heading towards a rendezvous with the infinite.

Surrender.

In a few moments you will be dead. Give up this mad fight and die peacefully,

The ship shuddered violently. What were they doing to it now?

Surrender!

"Go to hell," Holman snapped. "While there's breath in me, I'll spend it fighting you."

You cannot escape.

But now Holman could feel warmth seeping into the ship.

He could sense the painful glare outside as billions of galaxies all rushed together down to a single cataclysmic point in spacetime.

"It's almost over!" he shouted. "Almost finished. And you've lost! Mankind is still alive, despite everything you've thrown at him. AH of mankind-the good and the bad, the murderers and the music, wars and cities and everything we've ever done, the.whole race from the beginning of time to the end-all locked up here in my skull. And I'm stil! here. Do you hear me? I'm still here!" The Others were silent,

Holman could feel a majestic rumble outside the ship, like distant thunder,

"The end of the world. The end of everything and everybody. We finish in a tie. Mankind has made it right down to the final second. And if there's another universe after this one, maybe there'll be a place in it for us all over again. How's that for laughs?"

The world ended.

Not with a whimper, bat a roar of triumph.

Part 2. Sun Destroyed

What if the Universe continues on its peaceful way, but it is our Sun that is somehow destroyed? That would be a "Catastrophe of the Second Class."

In the prescientific age, it was felt that the Sun was not reliable. In the Norse myths, the Sun and Moon were forever pursued by wolves who might swallow them at any time. In the Greek myths, an unskilled hand at the reins of the solar chariot sent the Sun careening toward the Earth and nearly destroyed it. Science knows better. The Sun is stable-but is it? Do we know enough? Can it destroy us willfully, unpre-dictably ("Judgement Day" by Lloyd Biggie, Jr.)?

Well, perhaps not willfully, unpredictably-but inevitably. The Sun cannot last forever. In the 1840s, Hermann von Helmholtz worked out the law of conservation of energy, and that in itself, told us the Sun had a finite life and must die ("The Custodian" by William Tenn)-but not for billions of years, we believe.

The manner of that death has changed since Helmholtz's day. For nearly a century, it was taken for granted that the Sun was, one way or anqther, a huge bonfire that would flicker, die down and cool. It would take longer for the Sun to do so than an ordinary bonfire but it was just as inevitable ("Phoenix" by Clark Ashton Smith).

By the 1930s, however Hans A. Bethe and Carl von Weizsacker had worked out the details of the nuclear fires of the Sun and it began to seem that our luminary would go out in a deadly blaze rather than a pitiful flicker ("Run from the Fire" by Harry Harrison).

Judgement Day
by Lloyd Biggle, Jr.

Lem Dyer was used to being talked about. For years people had thought him a bit touched in the head, or a harmless dreamer, or maybe some kind of soothsayer, and in Glenn Center when folks thought something they said it. Lem never minded.

They were saying other things about Mm that evening, foul, vicious things. Lem heard some of them, spewed up from the crowd that gathered below his cell window. He tilted the battered old chair baek against the cement-block wall and sat there in the dark, puffing slowly on his corncob pipe and only half listening to the arguments, and the coarse shouts, and the jeers. "Shucks," he told himself, "They don't mean nothin' by it."

And after a while he heard the sheriff's booming voice talking to the crowd, telling the men to go home, telling them they had -nothing to worry about, and they might as well leave Lem Dyer alone with his conscience.

"He'll hang at sunrise, just as sure as there'll be a sunrise," Sheriff Harbson said. "Now go on home and get to bed. You don't want to oversleep, do you?"

There was more talk, and then the men drifted away, and things got quiet, The sheriff came back in the jail and barred the front door, and Lem heard him talking to the deputies, allowing that Lem Dyer might or might not be the things people said he was, but he sure was an odd one.

"Going to hang in the morning," the sheriff said, "and he's sitting back there in his cell smoking his pipe just like he always used to do out in his shack, of an evening. To look at him you'd think nothing had happened-or was going to happen."

Lem chuckled softly to himself. The sheriff was a good man. He'd gone out of his way to make Lem comfortable and bring him little things like tobacco and even a drink of whisky now and then. And when Lem had thanked him, he'd said, "Hell, I've got to hang you. Isn't that punishment enough?"

Lem puffed contentedly on his pipe and decided he should do something for the sheriff. But later on, after all this was over with.

He'd wanted to tell the sheriff that there wouldn't be *any* hanging, and he was wasting a lot of money building that scaffold and getting everything ready. But he couldn't without telling him about the pictures, and the looking and choosing, and he'd never told anyone about that. And perhaps it was just as well that he hadn't told him,

because the scaffold was in the pictures.

He'd looked at so many pictures it'd given him a headache, and the scaffold was in all of them, and the people crowding around it, and Lem Dyer dangling by his neck. And then the deputy running out of the jail and shouting, stop, the governor just telephoned, Lem Dyer is granted a reprieve, and the people laughing at Lem hanging there and shouting back, cut him down and reprieve him.

It was nice of the governor, Lem thought, to take such an interest in him, and he'd gone on looking at pictures, trying to find one where the governor telephoned in time. There was one where Sheriff Harbson got sick just as he was leading Lem up to the scaffold, and he lay there on the ground looking terrible, and Lem didn't like that even if it did hold things up until the governor telephoned. And there was a picture where the Glenn Hotel caught on fire, but some people got hurt, and Lem didn't want that. He'd gone on looking, and finally he found a picture where the rope broke, or came untied, and he fell right through the trap to the ground. It took some time to get things ready again, and the deputy came out shouting stop before they got Lem back up on the scaffold. Then the sheriff led Lem back toward the jail, with all the people following along behind. Lem liked that picture, and it was the one he chose.

He knew it wouldn't get him out of jail, and he'd have to look at pictures again. But he wasn't in any hurry. Looking at pictures made him terribly tired, now that he was getting old. He didn't like to do it unless he had to.

That was why he'd gotten into trouble. If he'd looked at pictures he wouldn't have jumped into the river to pull out the little Olmstead girl, and he wouldn't have carried her over to Doc Beasley's house, thinking the doctor might be able to help her, Or he would have made it come out some other way. But he hadn't looked at pictures, and people had started talking about haw maybe it was Lem who killed the little girl, and finally they'd taken him to court and had a trial.

Even then Lem hadn't looked at pictures. He hadn't done anything wrong, and he thought he didn't have anything to worry about. But the jury said he was guilty, and Judge Wilson said he waa to hang by his neck until he was dead, and Ted Emmons, who'd grown up to be a lawyer and was looking after things for Lem,.stopped smiling when he came to see him.

So Lem had looked at pictures again, and now he'd made his choice and everything would be all right.

He got up and fumbled in the dark for his can of tobacco. Suddenly the lights came on in the corridor, and footsteps shuffled in his direction.

"Visitors, Lem," the sheriff called. He stepped into sight, keys

jangling, and unlocked the cell door.

Reverend Meyers, of the Glenn Center First Baptist Church, sounded a deep-toned, "Good evening, Lem," gripped his hand, and then backed off into a corner and fussed with his hat. District Attorney Whaley nodded jerkily and tried to grin. He was middle-aged and getting a little fat and bald, but Lem remembered him as a tough kid stoning rats over at the town dump. Lem thought maybe he was feelmg a little proud of the way he talked the jury into finding Lem guilty, but then-that was his job, and the people had elected him to do it.

Mr. Whaley's grin slipped away, leaving him tight-lipped. He cleared his throat noisily and said, "Well, Lem, being as it's the last night, we were-that is, I was-wondering if maybe you had something to get off your chest."

Lem sat down again and tilted back in his chair. He lit his pipe and puffed for a moment before he said slowly, "Why-no. I don't reckon I've got anything on my chest that's botherin' me enough to need getting off, I never went much to church except on Christmas Eve, and that because I liked to watch the kids more than for the religion. The Revern here would say I wasn't a religious *man,* but I don't think he'd call me bad. I reckon maybe I've shot sne or two deer and caught a few fish out of season, because I needed the meat, and I've bet some on the races at the county fair, but a lot of men do that. I don't think I ever broke any other laws, and I never hurt nobody, and I think maybe I did help a lot of people,"

"I don't think anyone would call you a bad man, Lena," Whaley said. "But even good men make mistakes, and we'd all feel better, and so would you, if you told us about it."

"I told you all I know, Mr. Whaley," Lem said. "I saw the little girl floatin' in the river, and I thought she was drownin'. I didn't know somebody'd choked her. I jumped in and pulled her out, and I remembered that sometimes drowned people could be brought to life but I didn't know how, so I ran to Doc Beasley's with her. I can't tell more than that."

Whaley stopped his pacing to fumble for a cigarette. The sheriff gave him one of his and held a match for him.

"It doesn't worry you, Lem?" Whaley asked. "You're going to hang in the morning. You wouldn't want to die with that on your conscience, would you?"

"It don't worry me none," Lem said. "They don't hang innocent men, do they?"

"Why, no-"

"Then I got nothin' to worry about. I won't hang." He nodded his gray head and smiled peacefully.

Whaley stared at him for a moment. Then he turned abruptly and said over his shoulder, "Good luck, Lem,"

"Why, thank you, Mr. Whaley."

The sheriff followed Whaley out and locked the cell door. "Just holler when you're ready, Reverend," he said.

As their footsteps faded away down the corridor, a wistful grin touched Reverend Meyers's gaunt face. He lowered his long form awkwardly onto Lem's cot. "They're worried some, Lem," he said. "They'd feel a lot better if you up and told them you did it. They're'beginning to think maybe they're hanging an innocent man tomorrow."

"I can't tell them I did it if I didn't, Revern."

"Of course not, Lem. I know you didn't do it. So do quite a few other people. We've been working on it, Lem-working hard. Ted Emmons, and I, and some others. We didn't want to say anything to you because that might have made you start hoping, and we really didn't know if we could help you. We've finally had some luck, and we'think we know who killed the child. Ted Emmons is trying right now to get hold of the governor, to get you a reprieve. All we need is a little more time."

Lem nodded. That explained the telephone call from the governor that would have come too late if he hadn't looked at the pictures and made a choice. But now everything would be all right. He'd get the reprieve, and then they would find the real murderer let Lem out of jail, he wouldn't have to look at pictures again. He felt happy about that, because looking at pictures tired him so.

"Ted was having some trouble getting through to the governor," the Reverend said, "but he'll keep trying all night, if he has to. Just put your trust in God, Lem, and everything will be all right."

"I haven't been worryin', Revern."

"Keep faith with God, Lem. Do you mind if I pray for you?"

"You go right ahead, Revern."

Reverend Meyers bowed his head and spoke softly. Lem didn't listen, but he watched him uneasily. He hadn't put any faith at all in God. He'd put all his faith in his pictures, and the looking and choosing, and it disturbed him to think that maybe God was showing him the pictures and letting him look and choose. He'd never thought of that before. The pictures were just something he'd always had, like ears to hear with, and a mouth to eat with, and eyes, and hands, and legs. But then-God gave out those things, too, or so he'd heard Reverend Meyers say, so maybe God was showing him the pictures.

The Reverend Meyers intoned a soft, "Amen," and Lem said, "I'll have to do some thinkin', Revern,"

"How's that, Lem?"

"What you said-faith in God, and that. I'll have to do some thinkin'."

"I wish you woukL And Lem-it might be that Ted won't reach the governor, or that the governor won't grant the reprieve. If feat should happen, remember that the sheriff, and the district attorney, and the jury, have only done their duty as they saw it. Have charity in your heart for all men, Lem. Think of the Lord Jesus on the cross saying, 'Father, forgive them, for they know not what they do.'"

"Sure, Revern. I'll remember."

"I'll be with you in the morning, Lem. And the sheriff will let you know right away if there's any good news."

The sheriff came for Reverend Meyers, and a moment later the lights were turned out. Lem sat in the darkness, smoking his pipe and thinking.

He couldn't remember when he'd first started seeing pictures and making choices. He'd never done it very often, even when he was young, because it left him dizzy and kind of sick to his stomach, and sometimes he felt so weak afterward that it scared him. But whenever he wanted something real bad he would sit down somewhere and close his eyes and think about what it was he wanted. The pictures would come, one after the other. It was like slowly flipping through a deck of cards and taking time to look carefully at each one. When he found the picture he wanted he would choose that one, and that's the way things would happen.

The other kids envied him. They said Lem Dyer was the luckiest kid in three counties. He was always getting chances to run errands and do little things for people to earn spending money, but it wasn't luck. It was because of the pictures. If he wanted a stick of candy, all he had to do was find a picture where some lady was leaving Crib's Store with an armful of groceries and looking for someone to help her. He would choose that one and run down to Crib's Store, and whoever it was would come out and give him-a penny to carry her groceries. He was always there when Mr. Jones wanted the sidewalk swept in front of his barber shop, or when Banker Goldman wanted something run over to the post office in a hurry and everyone in the bank was busy. He didn't realize yet that it was his choosing that made people want things done.

He couldn't understand why the other kids didn't look at pictures when they wanted things. He was maybe nine or ten when he and some of his friends were stretched out on the river bank talking, and Stubby Smith went on and on about how much he wanted a bicycle. Lem said, "If you really want one, why don't you get it?"

The kids hooted at him and asked him why *he* didn't get one. Lem had never thought about getting something big, like a bicycle. He

closed his eyes and looked at pictures until he found one where little Lydia Morrow toddled into the street in front of a runaway team, and Lem jumped after her and pulled her back, and Mr. Morrow took Lem right into his hardware store and gave him the bicycle he had in the window.

Lem chose that one. He ran up town and got to Morrow's Hardware Store just as Lydia started into the street, and he was back at the river an hour later with his new bicycle.

For a long time Lem thought the pictures he saw were just pictures of things that were going to happen. He'd been almost grown up before he understood that his choosing a thing made it happen. Before a horse race at the county fair, he could see pictures of every horse in the race winning. If he made a choice, so he could bet on a horse, that horse would always win. He learned in a hurry that it wasn't smart to win all the time, and usually he would bet without even looking at pictures, but he always won enough money at the fair to last him through the winter.

Lem was twelve when his father fell off the barn, and he had to leave school and work the farm. He was only twenty when his mother died, and he rented out the farm and built himself a shack back in the woods, near the river, and that was his home. He loved to hunt and fish, and he loved being outdoors. As he got older a lot of people said it was a shame, a healthy man like him not working, and getting married, and raising a family. But he liked living alone, and he had all the company he ever wanted because all the kids liked to play down by the river, winter and summer. It never cost him much to live, and if he needed anything he could look at pictures and get what he wanted. If he felt like working for a week or two, he could look at pictures and then walk in to town and find a job waiting for him.

He'd had a happy life. He could choose a nice day, if he wanted to go fishing, or snow, if he wanted to do tracking, or rain, if the farmers were having trouble about their crops. When hunting season opened, Lem Dyer always got the first and biggest buck. He never went fishing without coming back with a nice string, And if a man needed help, chances were that Lem could help him.

He'd never told anyone about the pictures, and it bothered him, now that he was sixty-one, to think that maybe it was God who was showing them to him. He wondered if God had wanted him to do something important with them-something big, like stopping wars, or getting the right man elected president, or catching criminals. He knew he could have done all those things, if he'd thought of them. There wasn't anything he couldn't do just by seeing it in a picture and choosing it.

But he never read the papers, and he'd never thought much about

the world outside Glenn Center. He was almost too old to start, but he'd think some more about it, after he got out of jail. Maybe he should do something about those Russians so many people were worried about.

The clock on the Methodist Church was striking two when Lem finally went to bed.

The sheriff brought him his breakfast at four o'clock, a big $_t$ plate of ham and eggs, and toast, and lots of steaming coffee, Lem could already hear the men arriving out behind the jail, where the scaffold was.

Reverend Meyers came in before Lem finished eating, and his thin face was pale and grim. "Ted is still trying," he said,

Lem nodded. He wanted to tell the Reverend that everything would be all right, so he wouldn't worry, but if he did that he might have to tell him about the pictures. The Reverend was a good man, and Lem was sure he could trust him if he trusted anybody.

He was still thinking about it when he finished his breakfast. He got down on his knees to pray when the Reverend asked him to, and then the sheriff came in and there wasn't time. The sheriff and two deputies took Lem out to the scaffold, with the Reverend following along behind them.

Lem hadn't known that he had so many friends. The crowd filled the whole field and overflowed out into First Avenue. There weren't any women and children, of course, but it looked like every man from miles around had turned out. Lem thought it was nice of them to get up so early in the morning just for him. They waited quietly, not talking much and looking the other way when Lem looked down at them.

The Reverend was talking with the sheriff at the edge of the scaffold, talking fast, and with his hands gesturing urgently. The sheriff kept shrugging and turning his hands palms up and glancing at his watch. A deputy moved Lem over the trap and put the rope around his neck, Lem looked up and smiled a little when he saw it was an old rope.

The sheriff's hands were trembling when he stepped forward. He patted Lem on the back, and the Reverend said a little prayer and whispered, "God bless you, Lem," and out in the crowd Lem saw District Attorney Whaley turn slowly and stand with his eyes on the steeple of the Methodist Church. Then there was nothing under Lem's feet, and he was falling.

The savage jerk blurred his eyes with pain, but he kept falling until he sank to his knees on the ground under the scaffold. The air rocked with noise as everyone started talking and shouting. Sheriff Harbson came down and helped Lem out and stood there white-faced,

staring, not able to talk.

"Get a new rope!" someone shouted, and the crowd began to chant, "New rope! New rope!"

"You can't hang a man twice in one day," the Reverend was shouting, and the sheriff found his voice and shouted back, "He has to hang by his neck until dead. That's the law."

Then everyone turned toward the jail, where a deputy was screaming and trying to fight his way through the crowd.

The sheriff, and the deputies, and Reverend Meyers took Lem and started back to the jail with him. It took a long time, because none of the crowd seemed in any hurry to get out of their way. Lem had supposed that the men would be glad to hear about the governor's reprieve, but they weren't. The noise got louder and louder, and they were shouting things like he'd heard in his cell the night before. Lem's pained him, and his ankle hurt from the fall, and he was glad it was over with.

They'd rounded the corner of the jail and started for the entrance, on Main Street, when the roaring fury of the crowd caught up with them and overwhelmed them. The sheriff went down trying to draw his revolver and was trampled. A deputy rushed into the jail and barred the door, and he could be seen through the window excitedly bending over the telephone. The crowd boosted a man up the side of the building to jerk the wires loose. Stones shattered the window and rained into the jail.

Lem was dragged back toward the scaffold, and when a deputy ducked behind it and fired into the air, the crowd turned the other way and dragged him toward Main Street,

"Get a rope!" someone shouted.

"Anyone got a horse? They used to use horses!"

"Don't need no horse. We can use Jake Arnson's truck, Jake, back your truck under that elm tree!"

Jake Arnson ran down the street to his truck. The motor coughed and sputtered and finally caught with a roar, and the truck lurched backward. Jake parked under the elm, cut the motor, and jumped out. A rope snaked up over a tree limb. Lem had been too stunned and horrified to feel the kicks and blows that rained upon him. They hoisted him onto the truck, and he stood there, hands and feet bound, trembling with frustration, while the rope was knotted about his neck.

He told himself he should have waited to see all of the picture. He should have looked at more pictures. But how could he have known that these men he knew so well would use him like this? Now he'd have to look at pictures again. He closed his eyes and forced himself to concentrate.,

The pictures flashed in front of him, one after the other, and in

each of them the truck rocked forward and left Lem Dyer dangling by his neck.

Jake was back in his truck, trying to start the motor. The starter whined fretfully. Someone yelled, "Need a push, Jake?"

Lem kept watching the pictures, but finally he knew, with a sickening certainty, that pictures couldn't help him. In all of them the truck moved forward and left him hanging. It had never happened that way before-pictures without any choices.

He shook the perspiration from his eyes and looked about him. The sheriff lay on the sidewalk in front of the jail in a pool of blood. Reverend Meyers lay nearby, his arms moving feebly, one leg bent at a strange angle. Men were hurling stones at the scaffold, where the deputy had taken refuge.

Sadly he looked down at the hate-twisted faces of men he'd thought were his friends. He remembered what the Reverend had told him. Jesus had seen hate like that when they'd nailed him to the cross, and he'd said, "Father, forgive them, for they know not what they do." Lem said the words to himself, softly. Maybe his old life wasn't worth much to anyone but himself, but it was sad.

The starter whined again, and someone called, "Speech! Can the murderer talk? Let's have a confession!"

A hundred coarse echoes sounded. "Confession! Confession!"

Lem threw his cracked voice out over the mob. "You're evil men-evil! Get down on your knees and pray that God won't punish you!"

They flung back at him wave after stinging wave of hoots of laughter. "You dirty murderer! God won't punish *us!"*

The Reverend had slumped forward to lie motionless. Doc Beasley had finally managed to push through the crowd and was kneeling beside the sheriff. The faces below Lem blurred and twisted and mortal anger overwhelmed him. "If God won't punish you," he screamed, "I will!"

He closed his eyes and willed the pictures into being. Larger than life, they were, but they moved so slowly, and he had so little time.

A tornado, dragging its swirling funnel along Main Street, relentlessly flattening buildings, crushing their occupants, toppling the Methodist Church steeple onto the jail.,,

"Not enough!" Lem gasped.

A prairie fire, tossed high on gale winds, roaring hungrily down on Glenn Center, driving the populace before it…

"Not enough?"

Fleets of enemy planes darkening the sky, pouring searing death onto even such an insignificant dot on the map as Glenn Center…

"Not enough!"

The summer sun, high and bright at noonday, suddenly bulging

crazily, tearing the sky asunder, drenching the countryside in blinding incandescence, charring human vermin, steaming away the rivers, crumbling concrete, boiling the very dust underfoot…

Lem 'chose that one, just as Jake Arnson got his motor started.

The Custodian
by William Tenn

May 9, 2190-Well, I did it! It was close, but fortunately I have a very suspicious nature. My triumph, my fulfillment was almost stolen from me, but I was too clever for them. As a result, I am happy to note in this, my will and testament, I now begin my last year of life.

No, let me be accurate. This last year of life, the year that I will spend in an open tomb, really began at noon today. Then, in the second sub-basement of the Museum of Modern Astronautics, I charged a dial for the third successive time and got a completely negative response.

That meant that I, Piyatil, was the only human being alive on Earth. What a straggle I have had to achieve that distinction!

Well, it's all over now, I'm fairly certain. Just to be on the

Safe side, I'll come down and check the anthropometer every day or so for the next week, but I don't think there's a chance in the universe that I'll get a positive reading. I've had my last, absolutely my final and ultimate battle with the forces of righteousness-and I've won. Left in secure, undisputed possession of my coffin, there's nothing for me to do now but enjoy myself.

And that shouldn't be too hard. After all, I've been planning the pleasures for years!

Still, as I tugged off my suit of berrillit blue and climbed upstairs into the.sunlight, I couldn't help thinking of the others. Gruzeman, Prej'aut, and possibly even Mo-Diki. They'd have been here with me now if only they'd had a shade less academic fervor, a touch more of intelligent realism.

Too bad in a way. And yet it makes my vigil more solemn, more glorious. As I sat down on the marble bench between Rozinski's heroic statues of the Spaceman and Spacewoman, I shrugged and dismissed the memories of Gruzeman, Pre-jaut, and Mo-Diki.

They had failed. I hadn't.

I leaned back, relaxing for the first time in more than a month. My eyes swept over the immense bronze figures towering above me, two pieces of sculpture yearning agonizingly for the stars, and I burst into a chuckle. The absolute incongruity of my hiding place hit me for the first time-imagine, the Museum of Modern Astronautics! Multiplied by the incredible nervous tension, the knuckle-biting fear of the past five days, the chuckle bounced up and down in my throat and became a giggle, then a splutter, and finally a reverberating, chest-heaving laugh that I couldn't stop. It brought all the deer out of

the museum park te stand in front of the marble bench where Fiyatil, the last man on Earth, choked and coughed and wheezed and cackled at his senile accomplishment.

I don't know how long the fit might have held me, but a cloud, merely in the course of its regular duties as a summer cloud, happened to slide in front of the sun. That did it. I stopped laughing, as if a connection had been cut, and glanced upward.

The cloud went on, and the sunlight poured down as warmly as ever, but I shivered a bit.

Two pregnant young does came a little closer and stood watching as I massaged my neck. Laughter had given it a crick, "Well, my dears," I said, tossing them a quotation from one of my favorite religions, "it would seem that in the midst of life we are at last truly in death."

They munched at me impassively.

May 11, 2190-I have spent the last two days putting myself and my supplies in order and making plans for the immediate future. Spending a lifetime in sober preparation for the duties of custodianship is one thing. Finding suddenly that you have become *the* custodian, the last of your sect as well as your race-and yet, peculiarly, the fulfillment of them both-that is quite another thing. *I* find myself burning with an insane pride. And a moment later, I turn cold with the incredible, the majestic responsibility that I face.

Food will be no problem. In the commissary of this one institution, there are enough packaged meals to keep a man like myself well fed for ten years, let alone twelve months. And wherever I go on the planet, from Museum of Buddhist Antiquities in Tibet to the Panorama of Political History in Sevastopol, I will find a similar plenty,

Of course, packaged meals are packaged meals: somebody else's idea of what my menu should be. Now that the last Affirmer has gone, taking with him his confounded austerity, there is no Idnger any need for me to be a hypocrite. I can at last indulge my taste for luxury and bathe my tongue in gustatory baubles. Unfortunately I grew to manhood under Affirmer domination and the hypocrisies I learned to practice in sixty cringing years have merged with the essential substance of my character. I doubt, therefore, that I will be preparing any meals of fresh food from the ancient recipes.

And then, too, meals of fresh food would involve the death of creatures that are currently alive and enjoying themselves. This seems a bit silly under the circumstances…

Nor did I need to put any of the automatic laundries into operation. Yet I have. Why clean my clothes, I asked myself, when I can discard a tunic the moment it becomes slightly soiled and step

into a newly manufactured garment, still stiff in memory of the machine matrix whence it came?

Habit told me why I couldn't. Custodian concepts make it impossible for me to do what an Affirmer in my position would find easiest: shrug out of the tunic on a clear patch of ground and leave it lying behind me like a huge, brightly colored dropping. On the other hand, much Affirmer teaching that my conscious mind has been steadfastly rejecting for decades, I find to my great annoyance, has seeped into the unconscious osmotically. The idea of deliberately destroying anything as functional, if relatively unesthetic, as a dirty Tunic, Male, Warm-Season, Affirmer Ship-Classification No. 2352558.3, appalls me-even against my will.

Over and over again, I tell myself that Affirmer Ship-Classification Numbers now mean nothing to me. Less than nothing. They are as meaningless as cargo symbols on the Ark to the stevedores who loaded it, the day after Noah sailed.

Yet I step into a one-seater flyball for a relaxing tour of the museum grounds and something in my mind says: *No. 58184.72, I* close my teeth upon a forkful of well-seasoned Luncheon Protein Component and note that I am chewing Ship-Classification Numbers *15762.94 through 15763.01. I* even remind myself that it is a category to be brought aboard among the last, and only when the shipboard representative of the Ministry of Survival and Preservation has surrendered his command to the shipboard representative of the Ministry of The Journey.

Not a single Affirmer walks the Earth at the moment. Together with their confounded multiplicity of government bureaus-including the one in which all people professing Custodianism had to be registered, the Ministry of Antiquities and Useless Relics-they are now scattered among a hundred or so planetary systems in the galaxy. But all this seems to matter not a bit to my idiotically retentive mind which goes on quoting texts memorized decades ago for Survival Placement Examinations long since superseded and forgotten by those in authority.

They are so efficient, the Affirmers, so horribly, successfully efficient! As a youngster, I confided to my unfortunately loquacious comrade, Ru-Sat, that I had begun creative painting on canvas in my leisure hours. Immediately, my parents, in collaboration with my recreational adviser, had me volunteered into the local Children's *Extra Work for Extra Survival Group,* where I was assigned to painting numbers and symbols on packing eases. "Not pleasure but persistence, persistence, persistence will preserve the race of Man," I had to repeat from the Affirmer catechism before I was allowed to sit down to any meal from that time on.

Later, of course, I was old enough to register as a conscientious Custodian. "Please," my father choked at me when

I told him, "don't come around any more. Don't bother us, I'm speaking for the entire family, Fiyatil, including your uncles on your mother's side. You've decided to become a dead man: that's your business now. Just forget you ever had parents and relatives-and let us forget we had a son."

This meant I could free myself from Survival chores by undertaking twice as much work with the microfilm teams that traveled from museum to museum and archaeological site to skyscraper city. But still there were the periodic Survival Placement Exams, which everyone agreed didn't apply to Custodians but insisted we take as a gesture of good will to the society which was allowing us to follow our consciences. Exams which necessitated putting aside a volume entitled *Religious Design and Decoration in Temples of the Upper Nile* for the dreary, dingy, well-thumbed *Ship-Classification Manual and Uniform Cargo Stowage Guide.* I had given up the hope of being an artist myself, but those ugly little decimals took up time that I wished to spend contemplating the work of men who had lived in less fanatic and less frenzied centuries.

They still do! So powerful is habit that, now that I have no questions en dehydration to answer ever again, I still find myself doing the logarithmic work necessary to find out where a substance is packed once its water is removed. It is horribly frustrating to be mired after all in an educational system from which I turned completely away!

Of course, the studies I am involved in at the moment probably don't help very much. Yet it is very important for me to pick up enough information from the elementary ed-ueatories in this museum, for example, to insure my not having to worry about the possibility of a flyball breakdown over a jungle area. I'm no technician, no trouble-shooter. I have to learn instead how to choose equipment in good working order and how to start operating it without doing any damage to delicate components.

This technological involvement irritates me. Outside, the abandoned art of 70,000 years beckons-and here I sit, memorizing dull facts about the power plants of worker robots, scrutinizing blueprints of the flyballs' antigrav screws, and acting for all the world like an Affirmer captain trying to win a commendation from the Ministry of The Journey before he blasts off.

Yet it is precisely this attitude that is responsible for my, being here now, instead of sitting disconsolately aboard the

Affirmer scout ship with Mo-Diki, Gruzeman, and Prejaut. While they exulted in their freedom and charged about the planet like creaky

old colts, I made for the Museum of Modern Astronautics and learned how to operate and read an an-thropometer and how to activate the berrillit blue. I hated to waste the time, but I couldn't forget how significant to an Affirmer, especially a modern one, is the concept of the sa-credness of human life. They had betrayed us once; they were bound to come back to make certain that the betrayal left no loose ends in the form of Custodians enjoying fulfillment. I was right then, and I know I am right now-but I get so bored with the merely useful!

Speaking of the anthropometer, I had a nasty shock two hours ago. The alarm went off-and stopped. I scurried downstairs to it, shaking out the berrillit blue suit as I ran and hoping desperately that I wouldn't blow myself up in the course of using it a second time.

By the time I got to the machine, it had stopped caterwauling. I charged the all-directional dial over ten times and got no response. Therefore, according to the anthropometer manual, nothing human was moving about anywhere in the entire solar system. I had keyed the machine to myself elec-trocephalographically so that I wouldn't set off the alarm. Yet the alarm *had* gone off, indisputably recording the presence of humanity other than myself, however temporary its existence had been. It was very puzzling.

My conclusion is that some atmospheric disturbance or faulty connection inside the anthropemeter set the machine off. Or possibly, in my great joy over being left behind a few days ago, I carelessly damaged the apparatus.

I heard the Affirmer scout ship radio the news of the capture of my colleagues to a mother vessel waiting beyond Pluto: I *know I'm* the sole survivor on Earth.

Besides, if it had been skulking Affirmers who set the alarm off, their own anthropometer would have detected me at the same time, since I had been walking about unprotected by the insulating effect of berrillit blue. The museum would have been surrounded by flyball crews and I'd have been caught almost immediately.

No, I cannot believe I have anything more to fear from Affirmers. They have satisfied themselves with their last-moment return of two days ago, I am positive. Their doctrine would forbid any further returns, since they would be risking their own lives. After all, there are only 363 days left-at most-before the sun goes nova.

May 15,2190-I am deeply disturbed, hi fact, I am frightened. And the worst of it is, I,do not know of what. All I can do now is wait.

Yesterday, I left the Museum of Modern Astronautics for a preliminary tour of the world. I planned to spend two or three weeks hopping about in my flyball before I made any decision about where I would stay for the bulk of my year.

My first error was the choice of a first destination. Italy. It is very

possible that, if my little problem had not come up, I would have spent eleven months there before going on with my preliminary survey. The Mediterranean is a dangerous and sticky body of water to anyone who has decided that, his own talents being inadequate or aborted, he may most fittingly spend his life cherishing the masterpieces presented to humanity by other, much more fortunate individuals.

I went to Ferrara first, since the marshy, reclaimed plain outside the city was a major Affirmer launching site. I lingered a little while at one of my favorite buildings, the Palazzo *di Diamanti,* shaking my head as helplessly as ever at the heavy building stones of which it is constructed and which are cut and faceted like so many enormous jewels. To my mind, the city itself is a jewel, now somewhat dulled, that sparkled madly in the days of the Este court. One little city, one tiny, arrogant court-I would so happily have traded them for the two billion steadfastly boorish Affirmers. Over sixty years of almost unchallenged political control, and did an entire planetful of them produce a single competitor for a Tasso or an Ariosto? And then I realized that at least one native Ferraran would have felt at ease in the world that has_ just departed from me, its last romantic. I remembered that Savonarola had been born in Ferrara…

The plain outside Ferrara also reminded me of the dour Dominican. The launching field, stretching away for quite a few flat miles, was strewn with enough possessions discarded at the last moment, to make a truly towering Bonfire of Vanities.

But what pathetic vanities! Here, a slide rule that some ship's commander had ordered thrown out before takeoff because the last inspection had revealed it to be in excess of what the *Ship-Classification Manual* listed as the maximum number of slide rules necessary for a vessel of that size. There, a mimeographed collection of tally sheets that had been dropped out of the closing air lock after every last item had been checked off as per regulations-one check *before* the item by the Ministry of Survival and Preservation, and one check *after* the item by the Ministry of The Journey, Soiled clothing, somewhat worn implements, empty fuel and food drums lay about on the moist ground. Highly functional articles all, that had somehow come in the course of time to sin against function-and had fallen swiftly from use. And, surprisingly, an occasional doll, not looking very much like a doll, to be sure, buj not looking like anything that had an objective purpose either. Staring about me at the squalid debris dotted so rarely with sentiment, I wondered how many parents had writhed with shame when, despite their carefully repeated admonitions and advance warnings, the last search had discovered something in the recesses of a juvenile tunic that could only be called

an old toy-or, worse yet, a keepsake.

I remembered what my recreational adviser had said on that subject, long years ago. "It's not that we believe that children shouldn't have toys, Fiyatil; we just don't want them to become attached to any particular toy. Our race is going to leave this planet that's been its home from the beginning.

We'll be able to take with us only such creatures and objects as are usable to make other creatures and objects which we'll need for sustenance wherever we come down. And because we can't carry more than so much weight in each ship, we'll have to select from among the usable objects those which are essential.

"We won't take anything along because it's pretty, or because a lot of people swear by it, or because a lot of people *think* they need it. We'll take it along only because nothing else will do an important job so well. That's why I come to your home every month or so to inspect your room, to make certain that your bureau drawers contain only new things, that you're not falling into dangerous habits of sentimentality that can lead only to Custodianism. You've got far too nice a set of folks to turn into *that* kind of person."

Nonetheless, *I* chuckled to myself, I had turned into that kind of person. Old Tobletej had been right: the first step on the road to ruin had been bureau drawers crammed with odds and ends of memory. The twig on which had sat the first butterfly I'd ever caught, the net with which I'd caught him, and the first butterfly himself. The wad of paper that a certain twelve-year-old lady had thrown at me. A tattered copy of a real printed book-no facsimile broadcast, this, but something that had once known the kiss of type instead of the hot breath of electrons. The small wooden model of Captain Karma's starship, *Man's Hope,* which an old spacehand at Lunar Line launching field had given me along with much misinformation…

Those paunchy bureau drawers! How my parents and teachers had tried to teach me neatness and a hatred of possessions! And here was I, now grown into man's estate, smug over my possession of a quantity of artistic masterpieces the like of which no Holy Roman Emperor, no Grand Khan, would have dared to dream about.

I chuckled once more and started looking for the launching site robots. They were scattered about, almost invisible in the unimportant garbage of the spaceship field. After loading the ship, they had simply wandered about until they had run down. I activated them once more and set them to, cleaning the field.

This is something I will do in every one of the two hundred or so launching sites on Earth, and this is the chief reason I have been studying robotics. I want Earth to look as pretty as possible when she dies. I never could be an Affirmer, I am afraid; I form strong

attachments.

Feeling as I did, I just couldn't continue on my trip without taking the quickest, the most cursory glance at Florence. Naturally.

But as I should have expected, I got drunk on oils and marble and metal work. Florence was empty of Florentines, but the glorious galleries were still there. I walked across the fine Ponte Vecchio, the only one of the famous Arno bridges to have escaped destruction in the Second World War. I came to Giotto's campanile and the baptistery doors by Ghiberti and I began to feel despair, desperation. I ran to the Church of Santa Croce to see Giotto's frescoes and the Convent of St. Mark's for Fra Angelico. What good was one year, what could I see of evert a single city like this in a bare twelve months? I could view, I could gallop by, but what would I have time to see? I was in the Boboli gardens trying frantically to decide whether to look up Michelangelo's "David" which I'd seen once before, or some Denatello which I hadn't, when the alarms went off.

Beth of them.

The day before I'd left, Fd put together a small anthro-pometer that had originally been developed for locating lost colonists in the Venusian swamps. It was based on an entirely different design than the big machine that I'd found in the Hall of Gadgets. Since the circuits were unlike, and they had been planned for use in entirely different atmospheres, I believed they would serve as excellent checks on each other. I'd set the alarms to the frequency of my flyball communicator and had left the museum fairly confident that the only thing that could make both anthropometers go off would be the presence of a man other than myself.

I flew back to the Museum, feeling very confused. Both pieces of equipment had responded the same way. The.alarm had gone off, indicating the sudden materialization of Man on the planet. Then, when the stimulus had disappeared, both alarms had stopped. No matter how many times I charged the directional dials on each anthropometer, there was not the faintest suspicion of mankind within their extreme range, which is a little under one-half of a light-year.

The initial confusion has given way to a strong feeling of discomfort. Something is very wrong here on Earth, something other than the sun's getting ready to explode in a year. Possibly I have the nontechnician's blind faith in a piece of apparatus which I don't fully understand, but I don't believe that the anthropometers should be acting this way unless something really abnormal is occurring.

It has pleased me to look upon this planet as an oceangoing ship about to sink, and myself as the gallant captain determined to go down with her. Abruptly, I feel as if the ship were beginning to act like a whale.

I know what I must do. I'll move a supply of food down to the Hall of Gadgets and sleep right under the anthropometers. The alarm usually lasts for *a* minute or two. I can leap to my feet, charge the all-directional dials and get enough of a reading right then to know exactly where the stimulus is coming from. Then I will pop into'my flyball and investigate. It's really very simple.

Only, I don't *like* it.

May 17, 2190-I feel thoroughly ashamed of myself, as only an old man who has been seeing ghosts in the graveyard should be ashamed. That, in fact, is the only excuse I can make to myself. I have, I suppose, been thinking too much about death recently. The coming extinction of Earth and the solar system; my death which is inevitably involved with it; the death of millions of creatures of uncounted species, the death of proud old cities that Man has reared and occupied for centuries_ Well, perhaps the association with ghosties and beasties and other strange phenomena is understandable. But I *was* getting frightened.

When the alarms went off again this morning, I got a directional reading. My destination was the Appalachian Mountain region in eastern North America.

The moment I got out of the flyball and took in the pale azure fog covering the cave mouth in front of me, I began to understand-and feel ashamed. Through the fog, which thinned in one place and thickened in others as I watched, I could see several bodies lying on the floor of the cave. Obviously, one of them had to be alive for the anthropometer to have reacted as soon as a patch of berrillit blue got meager enough to make the presence of a human mind detectable. I walked around to the back of the cave and found no exit.

I went back to the Museum in the flyball and returned with the necessary equipment. I deactivated the berrillit blue fog at the entrance and walked inside cautiously.

The interior of the cave, which had evidently been furnished as a domestic and comfortable hideout, was completely wrecked. Somebody had managed to get an activator as well as a quantity of berrillit blue which had not yet been given any particular shape and which, therefore, was about as stable as hydrogen and oxygen-if it is permissible to use a metaphor from chemistry to illustrate negative force-field concepts. The berrillit blue had been activated as a sort of curtain across the mouth of the eave and had blown up immediately. But, since the activator was still operating and the entrance was fairly narrow, it continued to function as a curtain of insulating negative force, a curtain which had holes in it through which one could occasionally "peek" by means of the anthropometer at the people imprisoned inside.

There were three bodies near the entrance, two male and one female, rather youthful-looking. From the quantity and type pf statuary on the walls of the cave, it was easy to deduce that these people had belonged to one of the numerous religious Custodian groups, probably the *Fire in the Heavens* cult. When, in the last week of the exodus, the Affirmers had denounced the Crohiik Agreement and stated that the Affirmation of Life required that even those who didn't Affirm had to be protected against themselves, these people had evidently taken to the mountains. Evading the subsequent highly effective search, they had managed to stay hidden until the last great vessel left. Then, suspecting as I had that at least one scout ship would return for a final round-up, they had investigated the properties, of the anthropometer and found out about the only insulator, berrillit blue. Unfortunately, they had not found out enough.

Deep in the rear of the cave, a body twisted brokenly to meet me. It was a young woman. My first reaction was absolute astonishment at the fact that she was still alive. The explosion seemed to have smashed her thoroughly below the waist. She had crawled from the cave mouth to the interior where the group had stored most of their food and water. As I teetered, momentarily undecided whether to leave her and get medication and blood plasma from a hospital in the region or to risk moving her immediately, she rolled over on her back.

She had been covering a year-old infant with her body, evidently uncertain when the berrillit might blow again. And somehow, in spite of what must have been tremendous agony, she had been feeding the child.

I bent down and examined the baby. He was quite dirty and covered with his mother's blood, but otherwise unharmed. I picked him up and, in answer to the question in the woman's eyes, I nodded.

"He'll be all right," I said.

She started what may have been a nod in reply and stopped halfway through to die. I examined her carefully and, I will admit, *a* shade frantically. There was no pulse-no heartbeat.

I took the child back to the Museum and constructed a sort of play pen for him out of empty telescope sections. Then I went back to the cave with three robots and had the people buried. I admit the gesture was superfluous, but it wasn't only a matter of neatness. However fundamental our differences, we were all of Custodian persuasion, generally speaking. It somehow made me feel as if I were snapping my fingers in the face of the entire smug Affirmation to respect *Fire-in-Heaven* eccentricities in this fashion.

After the robots had completed their work, I placed a piece of the religious statuary (it was remarkably badly done, by the way) at the head of each grave and even said a short prayer, or rather a sermon. I

developed the thought that I had suggested approximately a week earlier to some deer- to wit, that in the midst of life we are in death. I did not joke about it, however, but spoke seriously on the subject for several minutes. The robots who were my audience seemed even less excited by the intelligence than the deer had been.

May 21, 2190-I am annoyed. I am very, very annoyed and my great problem at the moment is that I lack an object on which to expend my annoyance.

The child has been an incredible amount of trouble.

I took him to the largest medical museum in the northern hemisphere and had him thoroughly examined by the best pediatric diagnostic machinery, He seems to be in excellent health, which is fortunate for both of us. And his dietary requirements, while not the same as mine, are fairly simple. I got a full tape on the kind of food he needs and, after a few readjustments in the commissary of the Museum of Modern Astronautics, I have arranged for this food to be prepared and delivered to him daily. Unfortunately, he does not seem to regard this arrangement, which took up an inordinate amount of my time, as wholly satisfactory.

For one thing, he will not accept food from the regular robot nursemaid which I have activated for him. This, I suspect, is because of his parents' odd beliefs: he probably has never encountered mechanical affection before. He will only eat when I feed him.

That situation alone is intolerable, but I have found it almost impossible to leave him guarded by the robot nursemaid. Though he does little more than crawl, he manages to do this at surprisingly fast pace and is always disappearing into dark corridors of the museum. Then an alarm is flashed to me and I have to break off my examination of the gigantic palace of the Dalai Lama, the Potala, and come scudding back from Lhasa halfway across the world to the Museum.

Even then it would take us hours to find him-and by "us" I mean every robot at my disposal-if I were not able to resort to the anthropometer. This admirable gadget points out his hiding place very swiftly; and so, pulling him out of the firing chamber of the Space Howitzer in the Hall of Weapons, I return him to his play pen. Then, if I dare, and if it is not time for him to be fed, I may return-briefly-to the Tibetan plateau.

I am at present engaged in constructing a sort of enormous cage for him, with automatic heating and toilet facilities and devices that will screen out undesirable animals, insects, and reptiles. Though this is taking up far too much of my time, it will be an excellent investment, I believe.

I don't know quite what to do about the feeding problem. The

only solution I can find in any of the literature on the subject that offers promise is the one about letting him go hungry if he refuses food from normal sources. After a brief experiment, however, in which he seemed cheerfully resigned to starvation, I was forced to give in. I now handle every one of his meals.

The trouble is that I don't know whom to blame. Since I have been a Custodian from early manhood, I failed to see the need to reproduce. I have never been interested even slightly in children. I know very little about them and care less.

I have always felt that my attitude was admirably summed up by Socrates' comments in the *Symposium:* "Who, upon reflecting on Homer and Hesiod and other such great poets, would not rather have their children than ordinary human ones? Who would not like to emulate them in the creation of children such as theirs, which have preserved their memory and given them everlasting glory?… Many are the temples which have been raised in their honor for the sake of such children as they have had, which were never raised in honor of anyone for the sake of his mortal children."

Unfortunately, we are the only two humans alive on Earth, this child and I. We are going to our doom together; we ride the same round tumbril. And the treasures of the world, which were wholly mine less than a week ago, now belong at least partially to him. I wish we could discuss the matters at issue, not only to arrive at more equitable arrangements, but also for the sheer pleasure of the discussion. I have come to the conclusion that I began this journal out of unconscious terror when I discovered, after the Affirmers left, that I was completely alone.

I find myself getting very wistful for conversation, for ideas other than my own, for opinions against which mine might be measured. Yet according to the literature on the subject, while this child may begin talking any day now, we will be immersed in catastrophe long before he learns to argue with me. I find that sad, however inevitable.

How I wander! The fact is that once again I am being prevented from studying art as I would like". I am an old man and should have no responsibilities; I have all but laid down my life for the privilege of this study. It is extremely vexing.

And conversation. I can just imagine the kind of conversation I might be having with an Affirmer at the moment, were one to have been stranded here with me. What dullness, what single-minded biological idiocy! What crass refusal to look at, let alone admit, the beauty his species has been seventy millennia in the making! The most he might have learned if he is European, say, is a bit about the accepted artists of his culture. What would he know of Chinese paintings, for example, or cave art? Would he be able to understand

that in each there were primitive periods followed by eras of lusty development, followed in turn by a consolidation of artistic gains and an increase in formalization, the whole to be rounded off by a decadent, inner-groping epoch which led almost invariably into another primitive and lusty period? That these have occurred again and again in the major cultures so that even the towering genius of a Michelangelo, a Shakespeare, a Beethoven will likely be repeated-in somewhat different terms-in another complete cycle? That there was a Michelangelo, Shakespeare, and Beethoven in each of several different flower periods in ancient Egyptian art? '

How, could an Affirmer understand such concepts when he lacks the basic information necessary to understanding? When their ships departed from the moribund solar system laden only with immediately usable artifacts? When they refused to let their offspring keep childhood treasures for fear of developing sentimentality, so that when they came to colonize Procyon XII there would be no tears for either the world that had died or the puppy that had been left behind?

And yet history plays such incredible jokes on Man! They who ran away from their museums, who kept nothing but a cold microfilm record of what lay in their investment houses of culture, will learn that Man's sentimentality is not to be frustrated. The bleak, efficient ships that brought them to these alien worlds will become museums of the past as they oxidize out of existence on the strange sands. Their cruelly functional lines will become the inspiration for temples and alcoholic tears.

What in the world is happening to me? How I run on! After all, I merely wanted to explain why I was annoyed.

May 29, 2190-I have made several decisions, I don't know if I will be able to implement the most important of them, but I will try. In order, however, to give myself what I need most at the moment-time-I will write much less in this journal, if I write any more at all. I will try very hard to be brief.

To begin with the least important decision: I have named the child Leonardo. Why I chose to name him after a man who, for all of his talents-in fact, *because* of his talents-I regard as the most spectacular failure in the history of art, I do not know. But Leonardo was a well-rounded man, something which the Affirmers are not-and something which I am beginning to admit I am not.

By the way, the child recognizes his name. He is not yet able to pronounce it, but it is positively miraculous the way he recognizes it. And he makes a sound which is very like mine. In fact, I might say-

Let me go on.

I have decided to attempt an escape from the Earth-with Leonardo. My reasons are many and complex, and I'm not certain that

I understand them all, but one thing I do know: I have felt responsibility for a life other than my own and can no longer evade it.

This is not a tardy emergence into Affirmer doctrine, but in a very real sense my own ideas come to judgment. Since I believe in the reality of beauty, especially beauty made with the mind and hands of man, I can follow no other course.

I am an old man and will achieve little with the rest of my life. Leonardo is an infant: he represents raw potential; he might become anything. A song beyond Shakespeare's. A thought above Newton, above Einstein. Or an evil beyond Gilles de Retz, a horror past Hitler.

But the potential should be realized. I think, under my tutelage, it is less likely to be evil and there I have a potential to be realized.

In any case, even if Leonardo represents a zero personally, he may *carry* the germ-plasm of a Buddha, of a Euripides, of a Preud. And *that* potential must be realized…

There is a ship. Its name is *Man's Hope* and it was the first ship to reach the stars, almost a century ago when it had just been discovered that our sun would explode and become a nova in a little less than a hundred years. It was the ship that discovered for Man the heart-quickening fact that other stars have planets and that many of those planets are habitable to him.

It was a long time ago that Captain Karma brought his starship back down on the soil of Earth with the news that escape was possible. That was long before I was born, long before humanity divided unequally into Custodian and Affirmer and long, long before either group were the unwinking fanatics they had become five years ago.

The ship is in the Museum of Modern Astronautics. I know it has been kept in good condition, I also know that twenty years ago, before the Affirmers had developed the position that absolutely nothing might be taken physically from a museum, the ship was equipped with the latest Leugio Drive. The motive was that, if it were needed on Exodus Day, it might make the trip to a star in months instead of the years it had required originally.

The only thing that I do not know is whether I, Fiyatil, the Custodian of Custodians and art critic extraordinary, can learn to run it in the time that Leonardo and I have left.

But as one of my favorite comic characters remarked about the possibility of a man chopping his own head off: a man can *try*…

There is something else on my mind, even more exciting in a way, but this comes first. I find myself looking at the Sun a good deal these days. And very searchingly, too. Very.

November 11, 2190-1 can do it With the help of two robots which I will modify for the purpose, I can do it. Leonardo and I could leave

immediately. But I have my other project to complete.

And this is my other project. I am going to use all the empty space in the ship. It was built originally for different motors and a very large crew, and I am going to use that space as a bureau drawer. Into that bureau drawer I will stuff the keepsakes of humanity, the treasures of its childhood and adolescence-at least as many as I can get in.

For weeks I have been collecting treasures from all over the world. Incredible pottery, breath-taking friezes, glorious statuary, and oil paintings almost beyond *counting litter the* corridors of the museum. Brueghel is piled on Bosch, Bosch on Durer, I am going to, bring a little of everything to that star toward which I point my ship, a little to show what the real things were like. I am including things like the holograph manuscripts of Jane Austen's *Pride and Prejudice,* Beethoven's Ninth Symphony, Gogol's *Dead Souls,* Mark Twain's *Huckleberry Finn,* and holographs of Dickens's tetters and Lincoln's speeches. There are many others, but I cannot take everything. Within responsible limits, I must please myself.

Therefore, I am not taking anything from the Sistine

Chapel ceiling. I have carved out two bits of the "Last Judgment" instead. They are my favorites: the soul that suddenly realizes that it is condemned, and the flayed skin on which Michelangelo painted his own portrait.

The only trouble is that fresco weighs so much! Weight, weight, weight-it is almost all I think about now. Even Leonardo follows me about and says "Weight, weight, weight!" He pronounces nothing else so well.

Still, what should I take of Picasso? A handful of oils, yes, but I must take the "Guernica." And there is more weight.

I have some wonderful Russian copper utensils and some Ming bronze bowls. I have a lime spatula from Eastern New Guinea made of oiled wood that has a delightfully carved handle (it was used in chewing betel nut and lime). I have a wonderful alabaster figure of a cow from ancient Sumer. I have an incredible silver Buddha from northern India. I have some Dahomean brass figures of a grace to shame Egypt and Greece. I have a carved ivory container from Benin, West Africa, showing a thoroughly Fifteenth Century European Christ on the cross. I have the "Venus" of Willendorf, Austria, the figure that was carved in the Aurignacian epoch of the paleolithic and which is part of the artistic tradition of the "Venus" art of prehistoric mankind.

I have miniatures by Hilliard and Holbein, satiric prints by Hogarth, a beautiful Kangra painting of the eighteenth century on paper that shows astonishingly little Mughal influence, Japanese prints by Takamaru and Hiroshige-and where may I stop? How may I

choose?

I have pages from the Book of Kells, which is an illuminated hand-executed manuscript of almost unmatched beauty; and I have pages from the Gutenberg Bible, put together in the infancy of printing, which has illuminated pages to give the *effect* of a hand-copied manuscript, because the printers didn't want their invention discovered. I have a tughra of Sulaiman the Magnificent, a calligraphic emblem that formed headings for his imperial edicts; and I have a Hebrew Scroll of the Law whose calligraphy outshines the jewels which encrust the poles on which it is wound.

I have Coptic textiles of the sixth century and Alencon lace of the sixteenth. I have a magnificent red krater vase from one of Athens' maritime colonies and a wooden figurehead of a minister from a New England frigate. I have a Rubens nude and an Odalisque by Matisse.

In architecture-I am taking the Chinese *Compendium of Architecture* which I think has never been equaled as a text and a model of a Le Corbusier house built by him. I would love to take one building, the Taj Mahal, but I *am* taking the pearl that the Mogul gave to her for whom he built the ineffable tomb. It is a reddish pearl, shaped like a pear and about three and a half inches long; shortly after it was buried with her, it turned up in the possession of an Emperor of China who set it on gold leaves and surrounded it with jade and emeralds. At the turn of the nineteenth century, it was sold somewhere in the Near East for a tiny, ridiculous sum and ended in the Louvre.

And a tool: a small stone fistaxe, the first think known to have been made by human creatures.

All this I have collected near the ship. But I've sorted none of it. And I suddenly remember, I have collected as yet no furniture, no decorated weapons, no etched glass-

I must hurry, hurry!

November 2190-Shortly after I finished the-last entry, I glanced upward. There were green specks on the sun and strange orange streamers seemed to plume out to all points of the compass. Evidently there was not to be a year. These were the symptoms of death that the astronomers had predicted.

So there was an end to my collecting-and my sorting was done in less than a day. The one thing I suddenly found I had to do, when it became obvious that my sections of Michelangelo would be too heavy, was to go to the Sistine Chapel ceiling after all. This time I cat out a relatively tiny thing- the finger of the Creation as it stabs life into Adam. And I decided to take Da Vinci's "La Gioconda," even though his "Beatrice d'Este" is more to my taste: the Mona Lisa's smile belongs to the world.

All posters are represented by one Toulouse-Lautrec. I dropped the "Guernica"; Picasso is represented instead by an oil from his blue period and a single striking ceramic plate. I dropped Harold Paris's "The Eternal Judgment" because of its bulk; all I have of his now is the print *Buchenwald #2, "Where Are We Going?"* And somehow or other, in my last-minute haste, I seem to have selected a large number of Safavid bottles from Iran of the sixteenth and seventeenth centuries. Let future historians and psychologists puzzle out the reasons for my choices: they are now irrevocable.

We are proceeding toward Alpha Centauri and should arrive in five months. How will we and all our treasures be received, I wonder? I suddenly feel insanely cheerful. I don't think it has anything to do with my rather belated realization that I, who have so little talent and have failed so miserably in the arts, will achieve a place in the history of art like no other man-a kind of esthetic Noah.

No, it is the fact that I am carrying both the future and the past to a rendezvous where they still have a chance to come to terms. A moment ago Leonardo bounced a ball against the visiplate and, looking at it, I observed that old Sol was expanding apoplectically. As I remarked to him then: "I find, to my astonishment, that in the midst of death, I am- at last, at last!-truly in life."

Phoenix
by Clark Ashton Smith

Rodis and Hilar had climbed from their natal caverns to the top chamber of the high observatory tower. Pressed close together, for warmth as well as love, they stood at an eastern window looking forth on hills and valleys dim with perennial starlight. They had come up to watch the rising of the sun: that sun which they had never seen except as an orb of blackness, occluding the zodiacal stars in *its* course from horizon to horizon.

Thus their ancestors had seen it for millenniums. By some freak of cosmic law, unforeseen, and inexplicable to astronomers and physicists, the sun's cooling had been comparatively sudden, and the earth had not suffered the long-drawn complete desiccation of such planets as Mercury and Mars. Rivers, lakes, seas, had frozen solid; and the air itself had congealed, all in a term of years historic rather than geologic. Millions of the earth's inhabitants had perished, trapped by the glacial ice, the centigrade cold. The rest, armed with all the resources of science, had found time to entrench themselves against the cosmic night in a world of ramified caverns, dug by atomic excavators far below the surface,

Here, by the light of artificial orbs, and the heat drawn from the planet's still-molten depths, life went on much as it had done in the outer world. Trees, fruits, grasses, grains, vegetables, were grown in isotope-stimulated soil *or* hydro-panic gardens, affording food, renewing a breathable atmosphere. Domestic animals were kept; and birds flew; and insects crawled or fluttered. The rays considered necessary for life and health were afforded by the sunbright lamps that shone eternally in all the caverns.

Little of the old science was lost; but, on the other hand, there was now little advance. Existence had become the conserving of a fire menaced by inexorable night. Generation by generation a mysterious sterility had lessened the numbers of the race from millions to a few thousands. As time went on, a similar sterility began to affect animals; and even plants no longer flourished with their first abundance. No biologist could determine the cause with certainty.

Perhaps man, as well as other terrestrial life-forms, was past his prime, and had begun to undergo collectively the inevitable senility that comes to the individual. Or perhaps, having been a surface-dweller throughout most of his evolution, he was inadaptable to the cribbed and prisoned life, the caverned light and air; and was dying slowly from the deprivation of things he had almost forgotten.

Indeed, the world that had once flourished beneath a living sun was little more than a legend now, a tradition preserved by art and literature and history. Its beetling Babelian cities, *its* fecund hills and plains, were swathed impenetrably in snow and ice and solidified air. No living man had gazed upon it, except from the night-bound towers maintained as observatories.

Still, however, the dreams of men were often lit by primordial memories, in which the sun shone on rippling waters and waving trees and grass. And their waking hours were sometimes touched by an undying nostalgia for the lost earth…

Alarmed by the prospect of racial extinction, the most able and brilliant savants had conceived a project that was seemingly no less desperate than fantastic. The plan, if executed, might lead to failure or even to the planet's destruction. But all the necessary steps had now been taken toward its launching.

It was of this plan that Rodis and Hilar spoke, standing clasped in each other's arms, as they waited for the rising of the dead sun.

"And you must go?" said Rodis, with averted eyes and voice that quavered a little.

"Of course. It is a duty and an honor. I am regarded as the foremost of the younger atomicists. The actual placing and timing of the bombs will devolve largely upon me."

"But-are you sure of success? There are so many risks,. Hilar." The girl shuddered, clasping her lover with convulsive tightness.

"We are not sure of anything," Hilar admitted. "But, granting that our calculations are correct, the multiple charges of fissionable materials, including more than half the solar elements, should start chain-reactions that will restore the sun to its former incandescence. Of course, the explosion may be too sudden and too violent, involving the nearer planets in the formation of a nova. But we do not believe that this will happen-since an explosion of such magnitude would require instant disruption of *all* the sun's elements. Such disruption should not occur without a starter for each separate atomic structure. Science has never been able to break down all the known elements. If it had been, the earth itself would undoubtedly have suffered destruction in the old atomic wars."

Hilar paused, and his eyes dilated, kindling with a visionary fire.

"How glorious," he went on, "to use for a purpose of cosmic renovation the deadly projectiles designed by our forefathers only to blast and destroy. Stored in sealed caverns, they have not been used since men abandoned the earth's surface so many millenniums ago. Nor have the old spaceships been used either- An interstellar drive was never perfected; and our voyagings were always limited to the other worlds of our own system-none of which was inhabited, or

inhabitable. Since the sun's cooling and darkening, there has been no object in visiting any of them. But the ships too were stored away. And the newest and speediest one, powered with anti-gravity magnets, has been made ready for our voyage to the sun."

Rodis listened silently, with an awe that seemed to have subdued her misgivings, while Hilar continued to speak of the tremendous project upon which he, with six other chosen technicians, was about to embark. In the meanwhile, the black sun *rose* slowly into heavens thronged with the cold ironic blazing of innumerable stare, among which no planet shone. It blotted out the sting of the Scorpion, poised at that hour above the eastern hills. It was smaller but nearer than the igneous orb of history and legend. In its center, like a Cyclopean eye, there burned a single spot of dusky red fire, believed to mark the eruption of some immense volcano amid the measureless and cinder-blackened landscape.

To one standing in the ice-bound valley below the observatory, it would have seemed that the tower's lighted window was a yellow eye that stared back from the dead earth to that crimson eye of the dead sun.

"Soon," said Hilar, "you will climb to this chamber-and see the morning that none has seen for a century of centuries. The thick- ice will thaw from the peaks and valleys, running in streams to re-molten lakes and oceans. The liquefied air will rise in clouds and vapors, touched with the spectrum-tinted splendor of the light. Again, across earth, will blow the winds of the four quarters; and grass and flowers will grow, and trees burgeon from tiny saplings. And man, the dweller in closed caves and abysses, will return to his proper heritage."

"How wonderful it all sounds," murmured Rodis. "But… you will come back to me?"

"I will come back to you… in the sunlight," said Hilar.

The space-vessel *Phosphor* lay in a huge cavern beneath that region which had once been known as the Atlas Mountains. The cavern's mile-thick roof had been partly blasted away by atomic disintegrators. A great circular shaft slanted upward to the surface, forming a mouth in the mountain-side through which the stars of the Zodiac were visible. The prow of the *Phosphor* pointed at the stars.

All was now ready for its launching. A score of dignitaries and. savants, looking like strange ungainly monsters in suits and helmets worn against the spatial'cold that had invaded the cavern, were present for the occasion. Hiiar and his six companions had already gone aboard the *Phosphor* and had closed its air-locks.

Inscrutable and silent behind their metalloid helmets, the watchers waited. There was no ceremony, no speaking or waving of farewells; nothing to indicate that a world's destiny impended on the

mission of the vessel.

Like mouths of fire-belching dragons the stern-rockets flared, and the *Phosphor,* like a wingless bird, soared upward through the great shaft and vanished.

Hilar, gazing through a rear port, saw for a few moments the lamp-bright window of that tower in which he had stood so recently with Rodis. The window was a golden spark that swirled downward in abysses of devouring night-and was extinguished. Behind it, he knew, his beloved stood watching the *Phosphor's* departure. It was a symbol, he mused… a symbol of life, of memory… of the suns themselves… of all things that flash briefly and fall into oblivion.

But such thoughts, he felt, should be dismissed. They were unworthy of one whom his fellows had appointed as a light-bringer, a Prometheus who should rekindle the dead sun and re-lumine the dark world.

There were no days, only hours of eternal starlight, to measure the time in which they sped outward through the void. The rockets, used for initial propulsion, no longer flamed astern; and the vessel flew in darkness, except for the gleaming Argus eyes of its ports, drawn now by the mighty gravitational drag of the blind sun.

Test-flights had been considered unnecessary for the *Phosphor.* All its machinery was in perfect condition; and the mechanics involved were simple and easily mastered. None of its crew had ever been in extraterrestrial space before; but all were well-trained in astronomy, mathematics, and the various techniques essential to a voyage between worlds. There were two navigators; one rocket-engineer; and two engineers who would operate the powerful generators, charged with a negative magnetism reverse to that of gravity, with which they hoped to approach, circumnavigate, and eventually depart in safety from an orb enormously heavier than the system's nine planets merged into one. Hilar and his assistant, Hans Joas, completed the personnel. Their sole task was the timing, landing, and distribution of the bombs.

All were descendants of a mixed race with Latin, Semitic, Hamitic and negroid ancestry: a race that had dwelt, before the sun's cooling, in countries south of the Mediterranean, where the former deserts had been rendered fertile by a vast irrigation-system of lakes and canals.

This mixture, after so many centuries of cavern life, had produced a characteristically slender, well-knit type, of short or medium stature and pale olive complexion. The features were often of negroid softness; the general physique marked by a delicacy verging upon decadence.

To an extent surprising, in view of the vast intermediate eras of historic and geographic change, this people had preserved many pre-atomic traditions and even something of the old classic Mediterranean

cultures. Their language bore distinct traces of Latin, Greek, Spanish and Arabic.

Remnants of other peoples, those of sub-equatorial Asia and America, had survived the universal glaciation by burrowing underground. Radio communication had been maintained with these peoples till within fairly recent times, and had then ceased. It was believed that they had died out, or had retrograded into savagery, losing the civilization to which they had once attained.

Hour after hour, intervaled only by sleep and eating, the *Phosphor* sped onward through the black unvarying void. To Hilar, it seemed at times that they flew merely through a darker and vaster cavern whose remote walls were spangled by the stars as if by radiant orbs. He had thought to feel the overwhelming vertigo of unbottomed and undirectioned space. Instead, there was a weird sense of circumscription by the ambient night and emptiness, together with a sense of cyclic repetition, as if all that was happening had happened many times before and must recur often through endless future kalpas.

Had he and his companions gone forth in former cycles to the relighting of former perished suns? Would they go forth again, to rekindle suns that would flame and die in some posterior universe? Had there always been, would ther,e always be, a Rodis who awaited his return?

Of these thoughts he spoke only to Han Joas, who shared something of his innate mysticism and his trend toward cosmic speculation, But mostly the two talked of the mysteries of the atom and its typhonic powers, and discussed the problems with which they would shortly be confronted.

The ship carried several hundred disruption bombs, many of untried potency: the unused heritage of ancient wars that had left chasm scars and lethal radioactive areas, some a thousand miles or more in extent, for the planetary glaciers to cover. There were bombs of iron, calcium, sodium, helium, hydrogen, sulphur, potassium, magnesium, copper, chromium, strontium, barium, zinc elements that had all been anciently revealed in the solar spectrum. Even at the apex of their madness, the warring nations had wisely refrained from employing more than a few such bombs at any one time. Chain-reactions had sometimes been started; but, fortunately, had died out.

Hilar and Han Joas hoped to distribute the bombs at intervals over the sun's entire circumference; preferably in large deposits of the same elements as those of which they were composed. The vessel was equipped with radar apparatus by which the various elements could be detected and located. The bombs would be timed to explode with as much simultaneity as possible. If all went well, the *Phosphor* would have fulfilled its mission and traveled most of the return distance to

earth before the explosions occurred.

It had been conjectured that the sun's interior was composed of still-molten magma, covered by a relatively thin crust: a seething flux of matter that manifested itself in volcanic activities. Only one of the volcanoes was visible from earth to the naked eye; but numerous others had been revealed to telescopic study. Now, as the *Phosphor* drew near to its destination, these others flamed out on the huge, slowly rotating orb that had darkened a fourth of the ecliptic and had blotted Libra, Scorpio and Sagittarius wholly from view.

For a long time it had seemed to hang above the voyagers. Now, suddenly, as if through some prodigious legerdemain, it lay beneath them: a monstrous, ever-broadening disk of ebon, eyed with fiery craters, veined and spotted and blotched with unknown pallid radioactives. It was like the buckler of some macrocosmic giant of the night, who had entrenched himself in the abyss lying between the worlds.

The *Phosphor* plunged toward it like a steel splinter drawn by some tremendous lodestone.

Each member of the crew had been trained beforehand for the part he was to play; and everything had been timed with the utmost precision. Sybal and Samac, the engineers of the anti-gravity magnets, began to manipulate the switches that would build up resistance to the solar drag. The generators, bulking to the height of three men, with induction-coils that suggested some colossal Laocoon, could draw from cosmic space a negative force capable of counteracting many earth-gravities. In past ages they had defied easily the pull of Jupiter; and the ship had even coasted as near to the blazing sun as its insulation and refrigeration systems would safely permit. Therefore it seemed reasonable to expect that the voyagers could accomplish their purpose of approaching closely to the darkened globe; of circling it, and pulling away when the disruption-charges had all been planted.

A dull, subsonic vibration, felt rather than heard, began to emanate from the magnets. It shook the vessel, ached in the voyagers' tissues. Intently, with anxiety unbetrayed by their impassive features, they watched the slow, gradual building-up of power shown by gauge-dials on which giant needles crept like horologic hands, registering the reversed gravities one after one, till a drag equivalent to that of fifteen Earths had been neutralized. The clamp of the solar gravitation, drawing them on with projectile-like velocity, crushing them to their seats with relentless increase of weight, was loosened. The needles crept on… more slowly now… to sixteen… to seventeen… and stopped. The *Phosphor's* fall had been retarded but not arrested. And the switches stood at their last notch.

Sybal spoke, in answer to the unuttered questions of his

companions.

"Something is wrong. Perhaps there has been some unforeseen deterioration of the coils, in whose composition strange and complex alloys were used. Some of the elements may have been unstable-or have developed instability through age. Or perhaps there is some interfering unknown force, born of the sun's decay. At any rate, it is impossible to build more power toward the twenty-seven anti-gravities we will require close to the solar surface."

Samac added: "The decelerative jets will increase our resistance to nineteen anti-gravities. It will still be far from enough, even at our present distance."

"How much time have we?" inquired Hilar, turning to the navigators, Calaf and Caramod.

The two conferred and calculated.

"By using the decelerative jets, it will be two hours before we reach the sun," announced Calaf finally,

As if his announcement had been an order, Eibano, the jet-engineer, promptly jerked the levers that fired to full power the reversing rockets banked in the *Phosphor's* nose and sides. There was a slight further deceleration of their descent, a further lightening of the grievous weight that oppressed them. But the *Phosphor* still plunged irreversibly sunward.

Hilar and Hah Joas exchanged a glance of understanding and agreement. They rose stiffly from their seats, and moved heavily toward the magazine, occupying fully half the ship's interior, in which the hundreds of disruption-bombs were racked. It was unnecessary to announce their purpose; and no one spoke either in approval or demur.

Hilar opened the magazine's door; and he and Han Joas paused on the threshold, looking back. They saw for the last time the faces of their fellow-voyagers; expressing no other emotion than resignation, vignetted, as it were, on the verge of destruction. Then they entered the magazine, closing its door behind them.

They set to work methodically, moving back to back along a narrow aisle between the racks in which the immense ovoid bombs were piled in strict order according to their respective elements. Because of the various coordinated dials and switches involved, it was a matter of minutes to prepare a single bomb for the explosion. Therefore, Hilar and Han Joas, in the time at their disposal, could do no more than set the timing and detonating mechanism of one bomb of each element. A great chronometer, ticking at the magazine's farther end, enabled them to accomplish this task with precision. The bombs were thus timed to explode simultaneously, detonating the others through chain-reaction, at the moment when the *Phosphor*

should touch the sun's surface.

The solar pull, strengthening as the *Phosphor* fell to its doom, had now made their movements slow and difficult. It would, they feared, immobilize them before they could finish preparing a second series of bombs for detonation. Laboriously, beneath the burden of a weight already trebled, they made their way to seats that faced a reflector in which the external cosmos was imaged.

It was an awesome and stupendous scene on which they gazed. The sun's globe had broadened vastly, filling the nether heavens. Half-seen, a dim unhorizoned landscape, fitfully lit by the crimson far-sundered flares of volcanoes, by bluish zones and patches of strange radio-active minerals, it deepened beneath them abysmally disclosing mountains that would have made the Himalayas seem like' hillocks, revealing chasms that might have engulfed asteroids and planets.

At the center of this Cyclopean landscape burned the great volcano that had been called Hephaestus by astronomers. It was the same volcano watched by Hilar and Rodis from the observatory window. Tongues of flame a hundred miles in length arose and licked skyward from a crater that seemed the mouth of some ultramundane hell.

Hilar and Han Joas no longer heard the chronometer's portentous ticking, and had no eyes for the watching of its ominous hands. Such watching was needless now: there was nothing more to be done, and nothing before them but eternity. They measured their descent by the broadening of the dim solar plain, the leaping into salience of new mountains, the deepening of new chasms and gulfs in the globe that had now lost all semblance of a sphere.

It was plain now that the *Phosphor* would fall directly into the flaming and yawning crater of Hephaestus. Faster and faster it plunged, heavier grew the piled chains of gravity that giants could not have lifted-

At the very last, the reflector on which Hilar and Han Joas peered was filled entirely by the tongued volcanic.fires that enveloped the *Phosphor,*

Then, without eyes to see or ears to apprehend, they were part of the pyre from which the sun, like a Phoenix, was reborn.

Rodis, climbing to the tower, after a period of fitful sleep and troublous dreams, saw from its window the rising of the rekindled orb.

It dazzled her, though its glory was half-dimmed by rainbow-colored mists that fumed from the icy mountain-tops. It was a sight filled with marvel and with portent. Thin rills of downward threading water had already begun to fret the glacial armor on slopes and scarps; and later they would swell to cataracts, laying bare the buried soil and stone. Vapors, that seemed to flow and fluctuate on renascent

winds, swam sunward from lakes of congealed air at the valley's bottom. It was a visible resumption of the elemental life and activity so long suspended in hibernal night. Even through the tower's insulating walls, Rodis felt the solar warmth that later would awaken the seeds and spores of plants that had lain dormant for cycles.

Her heart was stirred to wonder by the spectacle. But beneath the wonder was a great numbness and a sadness like unmelting ice. Hilar, she knew, would never return to her- except as a ray of the light, a spark of the vital heat, that he had helped to relumine. For the nonce, there was irony rather than comfort in the memory of his promise; "I will come back to you-in the sunlight."

Run from the Fire
by Harry Harrison

1

"You can't go in there!" Heidi shrieked as the office door was suddenly thrown wide.

Mark Greenberg, deep in the tangled convolutions of a legal brief, looked up, startled at the interruption. His secretary came through the doorway, propelled by the two men who held her arms. Mark dropped the thick sheaf of papers, picked up the phone, and dialed the police.

"I want three minutes of your time," one of the men said, stepping forward. "Your girl would not let us in. It is important. I will pay. One hundred dollars a minute. Here is the money."

The bank notes were placed on the blotter, and the man stepped back. Mark finished dialing. The money was real enough. They released Heidi, who pushed their hands away. Beyond her was the empty outer office; there were no witnesses to the sudden intruders. The phone rang in his ears; then a deep voice spoke

"Police Department, Sergeant Vega."

Mark hung up the phone.

"Things have been very quiet around here. You have three minutes. There will also be a hundred-dollar fee for molesting my secretary."

If he had meant it as a joke, it was not taken that way. The man who had paid the money took another bill from the pocket of his dark suit and handed it to a startled Heidi, then waited in silence until she took it and left. They were a strange pair, Mark realized. The paymaster was draped in a rusty black suit, had a black patch over his right eye, and wore black gloves as well. A victim of some accident or other, for his face and neck were scarred, and one ear was missing. When he turned back, Mark realized that his hair was really a badly fitting wig. The remaining eye, lashless and browless, glared at him redly from its deepset socket, Mark glanced away from the burning stare to look at the other man, who seemed commonplace in every way. His akin had a shiny, waxy look; other than that and his unusual rigidity, he seemed normal enough.

"My name is Arinix, your name is Mark Greenberg," The scarred man bent over the card in his hand, reading quickly in a hoarse, emotionless voice. "You served in the United States Army as a captain in the adjutant general's office and as a military police officer. Is that correct?"

"Yes, but-"

The voice ground on, ignoring his interruption. "You were born in the state of Alabama and grew up in the city of Oneida, New York. You speak the language of the Iroquois, but you are not an Indian. Is that true?"

"It's pretty obvious. Is there any point to this questioning?"

"Yes. I paid for it. How is it that you speak this language?" He peered closely at the card as though looking for an answer that was not there.

"Simple enough. My father's store was right next to the Oneida reservation. Most of his customers were Indians, and I went to school with them. We were the only Jewish family in town, and they didn't seem to mind this, the way our Polish Catholic neighbors did. So we were friends; in minorities there is strength, you might say-"

"That is enough."

Arinix drew some crumpled bills from his side pocket, looked at them, and shoved them back. "Money," he said, turning to his silent companion. This man had a curious lizardlike quality for only his arm moved; the rest of his body was still, and his face fixed and-expressionless, as he took a thick bundle of bills from his side pocket and handed it over.

Arinix looked at it, top and bottom, then dropped it onto the desk.

"There is ten thousand dollars here. This is a fee for three days' work. I wish you to aid me. You will have to speak the Iroquois language. I can tell you no more."

"I'm afraid you will have to, Mr. Arinix. Or don't bother, it is the same to me. I am involved in a number of cases at the moment, and it would be difficult to take off the time. The offer is interesting, but I might lose that much in missed fees, Since your three minutes are up, I suggest you leave."

"Money," Arinix said again, receiving more and more bundies from his assistant, dropping them on Mark's desk. "Fifty thousand dollars. Good pay for three days. Now, come with us."

It was the man's calm arrogance that angered Mark, the complete lack of emotion, or even interest, in the large sums he was passing over.

"That's enough. Do you think money can buy everything?"

"Yes."

The answer was so sudden and humorless that Mark had to smile. "Well, you probably are right. If you keep raising the ante long enough, I suppose you will eventually reach a point where you can get anyone to listen. Would you pay me more than this?"

"Yes. How much?"

"You have enough here. Maybe Fm afraid to find out how high you will go. For a figure like this, I can take off three days. But you will have to tell me what is going to happen." Mark was intrigued, as much by the strange pair as by the money they offered.

"That is impossible. But I can tell you that within two hours you will know what you are to do. At that time you may refuse, and you will still keep the money. Is it agreed?"

A lawyer who is a bachelor tends to take on more cases than do his married associates-who like to see their families once in a while. Mark had a lot of work and a lot of money, far more than he had time to spend. It was the novelty of this encounter, not the unusual fee, that attracted him. And the memory of a solid two years of work without a single vacation. The combination proved irresistible.

"Agreed- Heidi," he called out, then handed her the money when she came into the office. "Deposit this in the number-two special account and then go home. A paid holiday. I'll see you on Monday."

She looked down at the thick bundle of bills, then up at the strangers as they waited while Mark took his overcoat from the closet. The three of them left together, and the door closed. That was the last time that she or anyone else ever saw Mark Greenberg.

2

It was a sunny January day, but an arctic wind that cut to the bone was blowing up from the direction of the Battery. As they walked west, it caught them at every cross street, wailing around the building corners. Although they wore only suit jackets, neither of the strange men seemed to notice it. Nor were they much on conversation. In cold and silent discomfort they walked west, a few blocks short of the river, where they entered an old warehouse building. The street door was unlocked, but Arinix now secured it behind them with a heavy bolt, then turned to the inner door at the end of the hall. It appeared to be made of thick steel plates riveted together like a ship's hull, and had a lock in each corner. Arinix took an unusual key from his pocket. It was made of dull, ridged metal, *as* thick as his finger and as long as a pencil. He inserted this in each of the four locks, giving it a sharp twist each time before removing it. When he was done, he stepped away, and his companion put his shoulder against the door and pushed hard. After a moment it slowly gave way and reluctantly swung open. Arinix waved Mark on, and he followed them into the room beyond.

It was completely commonplace. Walls, ceilings, and floor were painted the same drab tone of brown. Lighting came from a

translucent strip in the ceiling; a metal bench was fixed to the far wall next to another door.

"Wait here," Arinix said, theo went out through the door.

The other man was a silent, unmoving presence. Mark looked at the bench, wondering if he should sit down, wondering too if he had been wise to get involved in this, when the door opened and Arinix returned.

"Here is what you must *do"* he said. "You will go out of here and will note this address, and then walk about the city. Return here at the end of an hour."

"No special place to go, nothing to do? Just walk around?"

"That is correct."

He pulled the heavy outer door open as he spoke, then led the way through it, down the three steps, and back along the hall. Mark followed him, then wheeled about and pointed back.

"These steps! They weren't there when we came in-no steps, I'll swear to it."

"One hour, no more, I will hold your topcoat here until you return."

Warm air rushed in, bright sunlight burned on the stained sidewalk outside. The wind still blew, though not as strongly, but now it was as hot as from an oven door. Mark hesitated on the doorstep, sweat already on his face, taking off the heavy coat.

"I don't understand. You must tell me what-"

Arinix took the coat, then pushed him suddenly in the back. He stumbled forward, gained his balance instantly, and turned just as the door slammed shut and the bolt ground into place. He pushed, but it did not move. He knew that calling out would be a waste of time. Instead, he turned, eyes slitted against the glare, and stared out at the suddenly changed world.

The street was empty, no cars passed, no pedestrians were on the sidewalk. When he stepped out of the shadowed doorway, the sun smote him like a golden fist. He took his jacket off and hung it over his arm, and then his necktie, but he still ran with sweat. The office buildings stared blank-eyed from their tiered windows; the gray factories were silent, Mark looked about numbly, trying to understand what had happened, trying to make sense of the unbelievable situation. Five minutes ago it had been midwinter, with the icy streets filled with hurrying people. Now it was… what?

In the distance the humming, rising drone of an engine could be heard, getting louder, going along a nearby street. He hurried to the corner and reached it just in time to see the car roar across the intersection a block away. It was just that, a car, and it had been going too fast for him to see who was in it. He jumped back at a

sudden shrill scream, almost at his feet, and a large seagull hurled itself into the air and flapped away. It had been tearing at a man's body that lay crumpled in the gutter. Mark had seen enough corpses in Korea to recognize another one, to remember the never-forgotten smell of corrupted flesh. How was it possible for the corpse to remain here so long, days at least? What had happened to the city?

There was a growing knot of unreasoned panic rising within him, urging him to run, scream, escape. He fought it down and turned deliberately and started back toward the room where Arinix was waiting. He would spend the'rest of the hour waiting for that door to open, hoping he would have the control to prevent himself from beating upon it. Something had happened, to him or the world, he did not know which, but he did know that the only hope of salvation from the incredible events of the morning lay beyond that door. Screaming unreason wanted him to run; he walked slowly, noticing for the first time that the street he was walking down ended in the water. The buildings on each side sank into it as well, and there, at the" foot of the street, was the roof of a drowned wharf. All this seemed no more incredible than anything that had happened before, and he tried to ignore it. He fought so hard to close his mind and his thoughts that he did not hear the rumble of the truck motor or the squeal of brakes behind him.

"That man! What are you doing here?"

Mark spun about. A dusty, open-bodied truck had stopped at the curb, and a thin blond soldier was swinging down from the cab. He wore a khaki uniform without identifying marks and kept his hand near the large pistol in a polished leather holster that swung from his belt. The driver was watching him, as were three more uniformed men in the back of the truck, who were pointing heavy rifles in his direction. The driver and the soldiers were all black. The blond officer had drawn his pistol and was pointing it at Mark as well.

"Are you with the westenders? You know what happens to them, don't you?"

Sudden loud firing boomed in the street, and thinking he was being shot at, Mark dropped back against the wall. But no shots were aimed, in his direction. Even as they were turning, the soldiers in the truck dropped, felled by the bullets. Then the truck itself leaped and burst into flames as a grenade exploded. The officer had wheeled about and dropped to one knee and was firing his pistol at Arinix, who was sheltered in *a* doorway across the street, changing clips on the submachine gun he carried.

Running footsteps sounded, and the officer wheeled to face Arinix's companion, who was running rapidly toward him, empty-handed and cold-faced.

"Watch out!" Mark called as the officer fired.

The bullet caught the running man in the chest, spinning him about. He tottered but did not fall, then came on again. The second shot was to his head, but before the officer could fire again, Mark had jumped forward and chopped him across the wrist with the edge of his hand, so that the gun jumped from his fingers.

"Varken hand!" the man cried, and swung his good fist toward Mark.

Before it could connect, the runner was upon him, hurling him to the ground, kicking him in the head, again and again, with a heavy boot. Mark pulled at the attacker's arm, so that he lost balance and had to stagger back, turning about. The bullet had caught him full in the forehead, leaving a neat, dark hole. There was no blood. He looked stolidly at Mark, his features expressionless, his skin smooth and shiny.

"We must return quickly," Arinix said as he came up. He lowered the muzzle of the machine gun and would have shot the unconscious officer if Mark hadn't pushed the barrel aside.

"You can't kill him, not like that."

"I can. He is dead already."

"Explain that." He held firmly to the barrel. 'That and a lot more."

They struggled in silence for a second, until they were aware of an engine in the distance getting louder and closer. Arinix turned away from the man on the sidewalk and started back down the street. "He called for help on the radio. We must be gone before they arrive."

Gratefully Mark hurried after the other two, happy to run now, run to the door to escape this madness.

3

"A drink of water," Arinix said. Mark dropped onto the metal bench in the brown room and nodded, too exhausted to talk. Arinix had a tray with glasses of water, and he passed one to Mark, who drained it and took a second one. The air was cool here, feeling frigid after the street outside, and with the water, he was soon feeling better. More relaxed, at ease, almost ready to fall asleep. As his chin touched his chest, he jerked awake and jumped to his feet.

"You drugged the water," he said.

"Not a strong drug. Just something to relax you, to remove the tension. You will be better in a moment. You have been through an ordeal."

"I have… and you are going to explain it!"

"In a moment."

"No, now!"

Mark wanted to jump to his feet, to take this strange man by the throat, to shake the truth from him. But he did nothing. The desire was there, but only in an abstract way. It did not seem important enough to pursue such an energetic chain of events. For the first time he noticed that Arinix had lost his hairpiece during the recent engagement. He was as hairless as an egg, and the same scars that crisscrossed his face also extended over his bare skull. Even this did not seem important enough to comment upon. Awareness struck through,

"Your drug seems to be working."

"The effect is almost instantaneous."

"Where are we?"

"In New York City."

"Yes, I know, but so changed. The water in the streets, those soldiers, and the heat. It can't be January-have we traveled in time?"

"No, it is still January, the same day, month, year it has always been. That cannot be changed, that is immutable."

"But something *isn't;* something has changed. What is it?"

"You have a very quick mind, you make correct conclusions. You must therefore free this quick mind of all theories of the nature of reality and of existence. There is no heaven, there is no hell, the past is gone forever, the unstoppable future sweeps toward us endlessly. We are fixed forever in the now, the inescapable present of our world line-"

"What is a world line?"

"See… the drug relaxes, but your brain is still lawyer-sharp. You live in a particular present because of what happened in the past. Columbus discovered America, the armies of the North won the Civil War, Einstein stated that $E = MC^2$"

He stopped abruptly, and Mark waited for him to go on, but he did not. Why? Because he was waiting for Mark to finish for him. Mark nodded.

"What you are waiting for is for me to ask if there is a world line where Columbus died in infancy, where the South won, and so forth. Is that what you mean?"

"I do. Now, carry the analogy forward."

"If two or three world lines exist, why, more, any number, an infinity of world lines can exist. Infinitely different, eternally separate." Then he was on his feet, shaking despite the drug. "But they are not separate. We are in a different one right now. There is a different world line beyond that door, down those steps-because the ground here is at a different height. Is that true?"

"Yes."

"But why, how… I mean, what is going on out there, what terrible thing is happening?"

"The sun is in the early stages of a change. It is getting warmer, giving out more radiation, and the polar ice caps are beginning to melt. The sea level has risen, drowning the lowest parts of the city This is midwinter, and you saw how warm it is out there. You can imagine what the tropics are like. There has been a breakdown in government as people fled the drowning shorelines. Others have taken advantage of it. The Union of South Africa has capitalized on the deteriorating conditions, and using mercenary troops, has invaded the North American continent. They met little resistance."

"I don't understand-or rather, I do understand what is happening out there, and I believe you, because I saw it for myself. But what can I do about it? Why did you bring me here?"

"You can do nothing about it. I brought you here because we have discovered by experience that the quickest way that someone can be convinced of the multiplicity of worldliness is by bringing them physically to a different world line."

"It is also the best-and quickest-way to discover if they can accept this fact and not break down before this new awareness."

"You have divined the truth. We are, unfortunately, short of time, so wish to determine as soon as possible if recruits will be able to work with us."

"Who is *we?"*

"In a moment I will tell you. First, do you accept the idea of the multiplicity of world lines?"

"I'm afraid I must. Outside is an inescapable fact. That is not a stage constructed to confuse me. Those dead men are dead forever. How many world lines are there?"

"An infinite number; it is impossible to know. Some differ greatly, some so slightly that it is impossible to mark the difference. Imagine them, if you will, as close together as cards in a pack. If two-dimensional creatures, cluba and hearts, lived on each card, they would be unaware of the other cards and just as unable to reach them. Continue the analogy, drive a nail through all of the cards. Now the other cards can be reached. My people, the 'we' you asked about, are the ones who can do that. We have reached many world lines. Some we cannot reach-some we dare not reach."

"Why?"

"You ask why-after what you saw out there?" For the first time since they had met, Arinix lost his cold detachment. His single eye blazed with fury, and his fists were clenched as he paced the floor. "You saw the filthy things that happen, the death that comes before the absolute death. You see me, and I am typical of my people,

maimed, killed, and scarred by a swollen sun that produces more and more hard radiation every year. We escaped our world line, seeking salvation in other world lines, only to discover the awful and ultimate secret. The rot is beginning, going faster and faster all the time. You saw what the world is like beyond that door. Do you understand what I am saying, do the words make any sense to you?

"The sun is going nova. It is the end."

4

"Water," Arinix called out hoarsely, slumping onto the metal bench, his single eye closed now. The inner door opened, and his companion appeared with a pitcher and refilled the glasses. He moved as smoothly as before and seemed ignorant of the black hole in his forehead.

"He is a Sixim," Arinix said, seeing the direction of Mark's gaze. He drank the water so greedily that it ran down his chin. "They are our helpers; we could not do without them. Not our invention. We borrow what we need. They are machines, fabrications of plastic and metal, though there is artificial flesh of some kind involved in their construction. I do not know the details. Their controlling apparatus is somewhere in the armored chest cavity; they are quite invulnerable."

Mark had to ask the question.

"The sun is going nova, you said. Everywhere, in every time line-in *my* time line?"

Arinix shook his head a weary no. "Not in *every* line; that is our only salvation. But in too many of them-and the pace is accelerating steadily. Your line-no, not as far as we know. The solar spectrum does not show the characteristic changes. Your line has enough problems as it is, and is one we use for much-needed supplies. There are few of us, always too few, and so much to be done. We must save whom we can and what we can, do it without telling why or how we operate. It is a great work that does not end, and is a most tiring one. But my people are driven, driven insane with hatred, at times, of that bloated, evil thing in the sky. We have survived for centuries in spite of it, maimed and mutated by the radiation it pours out. It was due to a successful mutation that we escaped even as we have, a man of genius who discovered the door between the world lines. But the unsuccessful outnumber a million to one the successful in mutations, and I will not attempt to describe the suffering in my world. You may think me maimed, but I am one of the lucky ones. We have escaped our world line but found the enemy waiting everywhere. We have tried to fight back. We started less than two hundred years ago, and our enemy

started millions of years before us. From it we have learned to be ruthless in the war, and we will go on fighting it until we have done everything possible."

"You want me to do something in that world outside the door?"

"No, not there; they are dead. The destruction is too advanced. We can only watch. Closer to the end, we will save what art we can. Things have been noted. We know a culture by its art, don't we? We know a world that way as well. So many gone without record, so much to do."

He drank greedily at the water, slobbering. Perhaps he was mad, Mark thought, partly mad, at least. Hating the sun,trying to fight it, fighting an endlessly losing battle. But… wasn't it worth it? If lives, people, could be saved, wasn't that worth any price, any sacrifice? In his world line, men worked to save endangered species. Arinix and his people worked to save another species-their own.

"What can I do to help?" Mark asked.

"You must find out what happened to our field agent in one of our biggest operations. He is from your world line, the one we call Einstein because it is one of the very few where atomic energy has been released. He is now on Iroquois, which will begin going nova within the century. It is a strange line, with little technology and retarded by monolithic religions. Europe still lives in the dark ages. The Indians rule in North America, and the Six Nations are the most powerful of all. They are a brave and resourceful people, and we had hoped to use them to settle a desert world-we know of many of those. Imagine, if you can, the Earth where life never began, where the seas are empty, the land a desert of sand and rock. We have seeded many of them, and that is wonder to behold, with animal and plant life. Simple enough to introduce seeds of all kinds, and later, when they have been established, to transfer animals there. Mankind is not as easy to transfer. We had great hopes with the Iroquois, but our agent has been reported missing. I have taken time from my own projects to correct the matter. We used War Department records to find you."

"Who was your agent?"

"A man named Joseph Wing, a Mohawk, a steel worker here in the city in your own line."

"There has always been bad feeling between the Mohawk and other tribes of the nations."

"We know nothing about that, I will try to find his reports,, if any, if that will be of any assistance. The important thing is-will you help us? If you wish more money, you can have all you need. We have an endless supply. There is little geologic difference between many worlds. So we simply record where important minerals are on one world, things such as diamonds and gold, and see that it is mined on

another. It is very easy."

Mark was beginning to have some idea of the immensity of the operation these people were engaged in. "Yes, I'll help, I'll do what I can."

"Good. We leave at once. Stay where you are. We go now to a world line that is called Home by some, Hatred by others."

"Your own?"

"Yes. You will perhaps understand a bit more what drives us. All of our geographical transportation is done on Hatred, for all of the original transit stations were set up there. Also, that is all it is really good for." He spat the words from his mouth as though they tasted bad.

Again there was no sensation, no awareness of change, Arinix left the room, returned a few seconds later.

"You wouldn't like to show me how you did that?" Mark asked.

"I would not. It is forbidden, unthinkable. It would be death for you to go through that door. The means of transit between the world lines is one we must keep secret from all other than ourselves. We may be partially or completely insane, but our hatred is of that thing that hangs in the sky above us. We favor no group, no race, no people, no species above the others. But think what would happen if one of your nationalistic or religious groups gained control of the means to move between world lines, think of the destruction that might follow."

"I grasp your meaning but do not agree completely."

"I do not ask you to. All else is open to you; we have no secrets. Only that room is forbidden. Come."

He opened the outer door, and Mark followed him through.

They were inside a cavernous building of some kind. Harsh lights high above sent long shadows from great stacks of containers and boxes. They stepped aside as a rolling platform approached laden with shining cylinders. It was driven by a Sixim, who was identical, other than the hole in the forehead, to the one with them. The door they had just closed behind them opened, and two more Sixim came out and began to carry the cylinders back into the room.

"This way," Arinix said, and led the way through the high stacks to a room where bales of clothing lay heaped on tables. "Go on to repair," he ordered the damaged Sixim that still followed them, then pointed at the gray clothing.

"These are radiation-resistant. We will change."

As bereft of shame as of any other emotion, Arinix stripped off his clothing and pulled on one of the coverall-type outfits. Mark did the same. It was soft but thick and sealed up high on the neck with what appeared to be a magnetic closure. There were heavy boots in an assortment of sizes, and he soon found a pair that fitted. While he did

this, Arinix was making a call on a very ordinary-looking phone that was prominently stamped "Western Electric"-they would be surprised if they knew where their apparatus was being used- speaking a language rich in guttural sounds. They left the room by a different exit, into a wide corridor, where transportation was waiting for them. It was a vehicle the size of a large truck, a teardrop shape riding on six large, heavily tired wheels. It was made of metal the same color as their clothing, and appeared to have no windows. However, when they went inside, Mark saw that the solid nose was either transparent or composed of a large viewsereen of some kind. A single driver's seat faced the controls, and a curved, padded bench was fixed to the other three walls. They sat down, Arinix at the controls, and the machine started. There was no vibration or sound of any exhaust; it just surged forward silently at his touch.

"Electric power?" Mark asked.

"I have no idea. The cars run when needed."

Mark admired his singleness of purpose but did not envy him. There was only one thing in the man's life-to run from the solar fire and save what possibly could be saved from the flame. Were all of his'people like this?

5

Strong headlights glared on as they left the corridor and entered what appeared to be a tunnel mouth. The walls were rough and unfinished; only the roadway beneath was smooth, dropping away at a steep angle,

"Where are we going?" Mark asked.

"Under the river, so we can drive on the surface. The island above us-what is the name Einstein-?"

"Manhattan."

"Yes, Manhattan. It is covered by the sea now, which rises almost to the top of the cliffs across the river from it The polar caps melted many years ago here. Life is very harsh, you will see."

The tunnel ahead curved to the right and began to rise sharply. Arinix slowed the vehicle and stopped when a brilliant disk of light became visible ahead. He worked a control, and the scene darkened as though a filter had been slipped into place. Then, with the headlights switched off, he moved forward until the light could be seen as the glaring tunnel mouth, growing larger and brighter, until they were through it and back on the surface once more.

Mark could not look at the sun, or even in its direction, despite the protective filter. It burned like the open mouth of a celestial

furnace, spewing out light and heat and radiation onto the world below. Here the plants grew, the only living creatures that could bear the torrent of fire from the sky, that welcomed it. Green on all sides, a jungle of growing, thriving, rising, reaching plants and trees, burgeoning under the caress of the exploding star. The road was the only visible manmade artifact, cutting a wide, straight slash through the wilderness of plant life, straining life that leaned over, grew to its very edge, and sent tendrils and runners across its barren surface. Arinix threw more switches, then rose from the driver's seat.

"It is on automatic control now. We may rest."

He grabbed for support as the car slowed suddenly; ahead, a great tree had crashed across the road, almost blocking it completely. There was a rattle of machinery from the front of the car, and a glow sprang out that rivaled the glare of the sun above. Then they moved again, slowly, and greasy smoke billowed up and was blown away.

'The machine will follow the road and clear it when it must," Arinix said. "A device, a heat generator of some sort, will burn away obstructions. I am told it is a variant of the machine that melted the soil and rock to form this road, a principle discovered while observing the repulsive sun that has caused this all, making heat in the same manner the sun makes heat. We will turn its own strengths back upon it."

He went to the seat in the rear, stretched out on it with his face to the cushions, and appeared to fall instantly asleep, Mark sat in the driver's chair, careful to touch nothing, both fascinated and repelled by the world outside. The car continued unerringly down the center of the road at a high speed, slowing only when it had to burn away obstructions. It must have utilized radar or other sensing devices, for a_ sudden heavy rainstorm did not reduce its speed in the slightest. Visibility was only a few feet in the intense tropical downpour, yet the car moved on, speed unabated. It did slow, but only to burn away obstructions, and smoke and steam obscured all vision. Then the storm stopped, as quickly as it began. Mark watched until he began to yawn, so then, like Arinix, he tried to rest. At first he thought he could not possibly sleep, then realized he had. Darkness had fallen outside, and the car still hurried silently through the night.

It was just before dawn when they reached their destination.

The building was as big as a fortress, which it resembled in more ways than one. Its walls- were high and dark, featureless, streaked with rain. Harsh lights on all sides lit the ground, which was nothing more than sodden ash. Apparently all plant life was burned before it could reach the building and undermine it. The road led directly to a high door that slid open automatically as they approached. Arinix stopped the vehicle a few hundred yards short of the entrance and

rose from the controls.

"Come with me. This machine will enter by itself, but we shall walk. There is no solar radiation now, so you may, see my world and know what is in store for all the others."

They stepped out into the damp airlessness of the night. The car pulled away from them, and they were alone. Rivulets of wet ash streaked the road, disappearing in runnels at either side where the waiting plant life leaned close. The air was hot, muggy, hard to breathe, seemingly giving no substance to the lungs. Mark gasped and breathed deeply over and over again,

"Remember," Arinix said, turning away and starting for the entrance, "this is night, midwinter, before dawn, the coolest it will ever be here. Do not come in the summer."

Mark went after him, aware that he was already soaked with sweat, feeling the strength of the enemy in the sky above, which was already touching fire to the eastern horizon. Though he panted with the effort, he ran and staggered into the building and watched as the door ground shut behind him.

"Your work now begins;" Arinix said, leading the way into a now familiar brown room. Mark got his breath back and wiped his streaming face while they made their swift journey to the world line named Iroquois,

"I will leave you here and will return in twenty-four hours-for your report on the situation. We will then decide what must *he* -done." Arinix opened the outer door and pointed.

"Just a minute-I don't know anything that is happening here. You will have to brief me."

"I know nothing of this operation, other than what I have told you. The Sixim there should have complete records and will tell you what you need to know. Now, leave. I have my own work to do."

There was no point in arguing, Arinix gestured again impatiently, and Mark went through the door, which closed with a ponderous thud behind him. He was in darkness, cold darkness, and he shivered uncontrollably after the heat of the world he had just left.

"Sixim, are you there? Can you turn on some lights?"

There was the sudden flare of a match in answer, and in its light he could see an Indian lighting an ordinary kerosene lamp. He wore thong-wrapped fur leggings and a fringed deerskin jacket. Though his skin was dark, his features were Indo-European; once the lamp was lit, he stood by it, un-moving,

"You are the Sixim," Mark said.

"I am."

"What are you doing here?"

"Awaiting instructions."

These creatures were as literal-minded as computers- which is probably what their brains were. Mark realized he had to be more specific with his questions, but his teeth were chattering with cold, and he was shivering hard, which made it difficult to think.

"How long have you-been waiting?"

"Twelve days, fourteen hours, and-"

"That's precise enough. You have just been sitting here in the dark without heat all that time! Do you have a way of heating this place?"

"Yes."

"Then do it, and quickly… and let me have something to wrap around me before I freeze."

The buffalo-skin robe made a big difference, and while the Sixim lit a fire in a large stone fireplace, Mark looked around at the large room. The walls were of logs, with the bark still on, and the floor bare wide boards. Crates were piled at one end of the room, and a small mound of skins was at the other. Around the fire, it was more domestic, with a table and chairs, cooking pots, and cabinets. Mark pulled a wooden chair close and raised his hands to the crackling blaze. Once the fire was started, the Sixim waited stolidly again for more orders.

By patient questioning Mark extracted all that the machine man seemed to know about the situation. The agent, Joseph Wing, had been staying here and going out to talk to the Oneida. The work he did was unknown to the, Sixim." Wing had gone out and not returned. At the end of forty-eight hours, as instructed, the Sixim had reported him missing. How he had reported, he would not say; obviously there were questions it would not answer.

"You've been a help-but not very much," Mark said, "I'll just have to find out for myself what is going on out there. Did Joseph Wing leave any kind of papers, a diary, notes?"

"No."

"Thanks. Are there any weapons here?"

"In that box Do you wish me to unlock it?"

"I do."

The weapons consisted of about twenty well-worn, obviously surplus M-1 rifles, along with some boxes of ammunition. Mark tried the bolt on one-it worked smoothly- then put the rifle back in the box.

"Lock it up. I'm not looking for trouble, and if I find it, a single gun won't make that much difference. But a peace offering might be in order, particularly food in the middle of winter."

He carried the lantern over to the boxes and quickly found exactly what he needed. A case of large smoked hams. Picking one out, he held the label to the light, "Smithfield Ham," it read, "packed in New Chicago, weight 6.78 kilos." Not from his world line,

obviously, but that didn't matter in the slightest.

And he would need warmer clothes, clothes that would be more acceptable here than gray coveralls. There were leggings and jackets-obviously used, from their smell-that would do nicely. He changed quickly in front of the fire, then, knowing it would be harder the longer he waited, tucked the ham under his arm and went to the door and pulled back on the large wooden bolt.

"Lock this behind me, and unlock it only for me."

"Yes."

The door opened onto an unmarked field of snow with a stand of green pines and taller bare-limbed oak trees beyond. Above, in the blue arch of the sky, a small and reasonable winter sun shed more light than heat. There was a path through the trees, and beyond them a thin trickle of smoke was dark against the sky. Mark went in that direction. When he reached the edge of the grove, a tall Indian stepped silently from behind a tree and blocked the path before him. He made no threatening moves, but the stone-headed club hung easily and ready from his hand. Mark stopped and looked at him, saying nothing, hoping he could remember Iroquois after all these years. It was the Indian who broke the silence and spoke first,

"I am called Great Hawk."

"I am called… Little-one-talks." He hadn't spoken that name in years; it was what the old men on the reservation called him when he first spoke their own language. Great Hawk seemed to be easier when he heard the words, for his club sank lower.

"I come in peace," Mark said, and held out the ham.

"Welcome in peace," Great Hawk said, tucking the club into his waist and taking the ham. He sniffed at it appreciatively.

"Have you seen the one named Joseph Wing?" Mark asked.

The ham dropped, half-burying itself silently in the snow; the club was clutched at the ready.

"Are you a friend of his?" Great Hawk asked.

"I have never met him. But I was told I would see him here."

Great Hawk considered this in silence for a long time, looked up as a blue jay flapped by overhead, calling out hoarsely, then examined with apparent great attention the tracks of a rabbit in the snow-through all of this not taking his eyes from Mark for more than a second,. Finally he spoke.

"Joseph Wing came here during the hunter's moon, before the first snow fell. Many said-he had much orenda, for there were strange lights and sounds here during a night, and no one would leave the long house, and in the morning his long house stands as you see it now. There is great orenda here. Then he came and spoke to us and told us many things. He said he would show the warriors a place

where there was good hunting. Hunting is bad here, for the people of the Six Nations are many, and some go hungry. He said all these things, and what he showed us made us believe him. Some of us said we would go with him, even though some thought they would never return. Some said that he was Tehoron-hiawakhon, and he did not say it was not the truth. He said to my sister, Deer-runs, that he was indeed Tehoronhiawak-hon. He told her to come with him to his long house. She did not want to go with him. By force he took her to his long house."

Great Hawk stopped talking abruptly and looked attentively at Mark through half-closed eyes-. He did not finish, but the meaning was clear enough. The Oneida would have thought Joseph Wing possessed of much orenda after his sudden appearance, the principle of magic power that was inherent in every body or thing. Some had it more than others. A man who could build a building in a night must have great orenda. So much so that some would consider him to be Te-horonhiawakhon, the hero who watched over them, born of the gods, who lived as a man and who might return as a man. But no hero would take a maiden by force; the Indians were very practical on this point. Anyone who would do that would be killed by the girl's family; that was obvious. Her brother waited for Mark's answer.

"One who does that must die," Mark said. Defending the undoubtedly dead Joseph Wing would accomplish nothing; Mark was learning pragmatism from Arinix.

"He died. Come to the long house."

Great Hawk picked up the ham, turned his back, and led the way through the deep snow.

6

The Oneida warriors sat cross-legged around the fire while the women served them the thin gruel. Hunting must have been bad if this was all they had, for it was more water than anything else, with some pounded acorns and a few scraps of venison. After eating, they smoked, a rank leaf of some kind that was certainly not tobacco. Not until the ceremony was out of the way did they finally touch the topic that concerned them all.

"We have eaten elk," Great Hawk said, puffing at the pipe until his eyes grew red, "This is an elkskin robe I am wearing. They are large, and there is much meat upon them." He passed the pipe to Mark, then reached behind him under a tumbled hide and drew forth a bone, "This is the bone of the leg of an elk, brought to us by someone. We would eat well in winter with elk such as this to hunt."

Mark took it and looked at it as closely as he could in the dim light. It was a bone like any other, as far as he could tell, distinguished only by its great length-at least five feet from end to end. Comparing it with the length of his own femur, he could see that it came from a massive beast. Surely an elk or a cow would be smaller than this. What had this to do with the dead Joseph Wing? He must have brought it. But why, and where did he get it? If only there were some record of what he was supposed to be doing. Hunting, of course-that had to be it; food for these people who appeared too many for the limited hunting grounds. He held up the bone and spoke.

"Was it told to you that you would be able to hunt elk like this?"

There were nods and grunts in answer.

"What was told you?" After a silence, Great Hawk answered.

"Someone said that a hunting party could go to this land that was close by but far away. If hunting was good, a long house would be built for the others to follow. That was what was said."

It was simple enough. A hunting party taken to one of the seeded desert worlds, now stocked with game. If the trip was successful, the rest of the tribe would follow.

"I can also take you hunting in that land," Mark said,

"When will this be?"

"Come to me in the morning, and I will tell you,"

He left before they could ask any more questions. The sun was low on the horizon, sending long purple shadows across the white snow. Backtracking was easy, and the solid log walls of the building a welcome sight. When he was identified, the Sixim let him in. The fire was built even higher now, the large room was almost warmed up. Mark sat by the fire and stretched his hands to it gratefully; the Sixim was statuesque in the shadows,

"Joseph Wing was to take the Indians to another world line. Did you know that?"

"Yes."

"Why didn't you tell me?"

"You did not ask."

"I would appreciate it if you would volunteer more information in the future."

"Which information do you wish me to volunteer?"

The Sixim took a lot of getting used to. Mark took the lantern and rummaged through the variety of goods in the boxes and on the loaded shelves. There were ranked bottles of unfamiliar shape and labeling that contained some thing called *Kunbula Atashan* from someplace that appeared to be named Carthagio-it was hard to read the letters, so he could not be sure, but when he opened one of them, it had a definite odor of strong alcoholic beverage. The flavor was

unusual but fortifying, and he poured a mugful before he returned to the fire.

"Do you know whom I must contact to make arrangements for the transfer to the other world line?"

"Yes."

"Who?"

"Me."

It was just that simple. The Sixim would give no details of the operation, but he would operate the mechanism to take them to the correct world and return.

"In the morning, first thing, we'll go have a look."

They left soon after dawn. Mark took one of the rifles and some extra clips of ammunition; that had been a big elk, and he might be lucky enough to bag another. Once more the sensationless transfer was made and the heavy outer door pushed open. For the first time there was no other room or hallway beyond it, just a field of yellowed grass. Mark was astonished.

"But… is it winter? Where is the snow?" Because it was phrased as a question, the Sixim answered him.

"It is winter. But here in Sandstone the climate is warmer, due to the ocean-current differences."

Holding the rifle ready, Mark stepped through the door, which the Sixim closed behind him. Without being ordered, the Sixim locked the door with the long key. For the first time Mark saw the means of world-line transportation not concealed by an outer building. It was a large box, nothing more, constructed of riveted and rusty steel plates. Whatever apparatus powered it was inside, for it was completely featureless. He turned from it to look at the world named Sandstone.

The tall grass was everywhere; it must have been seeded first to stabilize the soil. It had done this, but it would take centuries to soften the bare rock contours of what had once been a worldwide desert. Harsh-edged crags pushed up in the distance where there should have been rounded hills; mounds of tumbled morain rose above the grass. Groves and patches of woods lay scattered about, while on one side a thick forest began and stretched away to the horizon. All of this had a very constructed air to it-and it obviously was. Mark recognized some of the trees; others were strange to him. This planet had been seeded in a hurry, and undoubtedly with a great variety of vegetation. As unusual as it looked now, this made ecological good sense, since complex ecological relationships increased the chance the ecosystem had of surviving. There would certainly be a variety of animal life as well- the large elk the Oneida knew about, and surely others as well. When he moved around the rusty building, he saw just what some of that life might be-and stopped still on the spot. No more than a few

hundred yards away, there was a herd of elephants tearing at the leaves on the low trees. Large elephants with elegant swept-back tusks, thickly covered with hair.

"Hairy mammoth!" he said aloud, just as the nearest bull saw him appear and raised his trunk and screamed warning.

"That is correct," the Sixim said.

"Get your key, and let's get out of here," Mark said, backing quickly around the corner. "I don't think a thirty-caliber will make a dent in that thing."

With unhurried, steady motions the Sixim unlocked the door, one lock after another, while the thunder of pounding feet grew louder and closer. Then they were through the door and pushing it shut.

"I think the Oneida will enjoy the hunting," Mark said, grinning wryly, leaning against the thick wall with relief, "Let's go back and get them."

When he opened the outer wooden door in Iroquois, he saw Great Hawk and five other warriors standing patiently in the snow outside. They were dressed warmly, had what must be provision bags slung at their waists, and were armed with long bows and arrows as well as stone clubs and stone skinning knives. They were prepared for a hunting expedition, they knew not where, but they were prepared. When Mark waved them forward, they came at once. The only sign of the tension they must be feeling was in their manner of walking, more like stalking a chase than entering a building. They showed little interest in the outer room-they must have been here before-but were eyeing the heavy metal door with more than casual interest. The deceased Joseph Wing must have told them something about it, but Mark had already decided to ignore this and tell the truth as clearly as they could understand it.

"Through that door is a long house that will bear us to the place where we will hunt. How it will take us there I do not know, for it is beyond my comprehension. But it will take us there as safely as a mother carries a papoose on her back, as safely as a bark canoe carries us over the waters. Are you ready to go?"

"Will you take the noise stick that kills?" Great Hawk asked, pointing with his thumb at the rifle Mark still carried.

"Yes."

"It was one time said that the Oneida would be given noise sticks and taught the manner of their use."

Why not, Mark thought, there were no rules to all this, anything went that would save these people. "Yes, you may have them now if you wish, but I think until you can use them well, your bows will be better weapons."

"That is true. We will have them when we return."

The Sixim pulled the heavy door open, and without being urged, the Indians filed into the brightly lit room beyond. They remained silent but held their weapons ready as the door was closed and the Sixim went through the door to the operating room, only to emerge a moment later.

"The journey is over," Mark said. "Now we hunt."

Only when the outer door was opened onto the grassy sunlit plain did they believe him. They grunted with surprise as they left, calling out in wonder at the strange sights and the warm temperature. Mark looked around nervously, but the herd of mammoth was gone. There were more than enough other things to capture the Indians' attention. They saw animals where he saw only grass and trees and called attention to them with pleased shouts. Yet they were silent instantly when Great Hawk raised his hand for silence, then pointed.

"There, under those trees. It looks like a large pig."

Mark could see nothing in the shadows, but the other

Indians were apparently in agreement, for they were nocking arrows to their bows. When the dark, scuffling shape emerged into the sunlight, they were ready for it, A European boar, far larger than they had ever seen. The boar had never seen men before either; it was not afraid; The arrows whistled; more than one struck home, the boar wheeled about, squealing with pain, and crashed back into the undergrowth. Whooping with pleasure, the Oneida were instantly on its trail.

"Stay inside until we get back," Mark told the Sixim. "I want to be sure *we* can get back."

He ran swiftly after the others, who had already vanished under the trees. The trail was obvious, marked with the blood of the fleeing animal, well trampled by its pursuers. From ahead there came even louder squealing and shouts that ended in sudden silence. When Mark came up, it was all over; the boar was on its side, dead, its skull crushed in, while the victorious Indians prodded its flanks and hams happily.

The explosion shook the ground at that moment, a long, deep rumbling sound that hammered at their ears. It staggered them, it was so close and loud, frightening them because they did not know what it was. Mark did. He had heard this kind of noise before. He wheeled about and watched the large cloud of greasy black smoke roiling and spreading as it climbed up the sky. It rose from behind the trees in the direction of the building. Then he was running, slamming a cartridge in the chamber of the rifle at the same time, thumbing off the safety.

The scene was a disaster. He stumbled and almost fell as he emerged from beneath the trees.

Where the squat steel building had stood was now only a

smoking, flame-licked ruin of torn and twisting plates. On the grass nearby, one leg ripped away and as torn himself, lay the Sixim.

The doorway between the worlds was closed.

7

Mark just stood there, motionless, even after the Indians came up and ranked themselves beside him, calling out in wonder at the devastation. They did not realize yet that they were exiled from their tribe and their own world. The Sixim raised its head and called out hoarsely; Mark ran to it. Much of its imitation flesh was gone, and metal shone through the gaps. Its face had suffered badly as well, but it could still talk.

"What happened?" Mark asked.

"There were strangers in the room, men with guns. This is not allowed. There are orders. I actuated the destruct mechanism and attempted to use the escape device."

Mark looked at the ruin and flames. "There is no way this room can be used again?" -

"No."

"Are there other rooms on this world?"

"One that I know of, perhaps more_____ "

"One is enough! Where is it?"

"What is the name of your world line?"

"What difference does that make?… All right, it's called Einstein."

"The room is located on an island that is named Manhattan." '

"Of course! The original one I came through. But that must be at least two hundred miles away from here as the crow flies."

But what was two hundred miles as compared to the gap between the worlds? His boots were sound, he was a couple of pounds overweight, but otherwise in good condition. He had companions who were at home in the wilds and knew how to live off the land. If they would come with him… They had little other choice. If he could explain to them what had happened and what they must do…

It was not easy, but the existence of this world led them to believe anything he told them-if not believe it, at least not to doubt it too strongly. In the end they were almost eager to see what this new land had to offer, what other strange animals there were to hunt. While the others butchered and smoked the fresh-killed meat, Mark labored to explain to Great Hawk that they were physically at the same place in the world as the one they had left. The Indian worked hard to understand this but could not, since this was obviously a different place. Mark finally forced him to accept the fact on faith, to

operate as if it were true even though he knew it wasn't.

When it came to finding the island of Manhattan, Great Hawk called a conference of all the Indians. They strolled over slowly, grease-smeared and happy, stomachs bulging with fresh meat. Mark could only listen as they explored the geography of New York State, as they knew it and as they had heard of it from others. In the end they agreed on the location of the island, at the mouth of the great river at the ocean nearby the long island. But they knew they could not get there from this place, then went back to their butchery. They fell asleep in the middle of this; it was late afternoon, so he gave up any hope of starting this day. He resigned himself to the delay and was eating some of the roasted meat himself when the Sixim appeared out of the forest. It had shaped a rough crutch from a branch, which it held under its arm as it walked. Arinix had said the creatures were almost indestructible, and it appeared he was right.

Mark questioned the Sixim, but it did not know how to get to Manhattan, nor did it have any knowledge of the geography of this world. When the sun set, Mark stretched out by the fire with the others and slept just as soundly as they did. He was up at first light, and as the sun rose in the east, he squinted at it and realized what he had to do. He would have to lead them out of here. He shook Great Hawk awake,

"We walk east toward the sun," he said, "When we reach the great river, we turn and follow it downstream to the south. Can we do that?" If there were a Hudson River on this world… and if the Indians would follow him,,, Great Hawk looked at him solemnly for a long moment, then sat,up.

"We leave now." He whistled shrilly, and the others stirred.

The Indians enjoyed the outing very much, chattering about the sights along the way and looking with amusement at what was obviously a happy hunting ground. Game was everywhere-creatures they knew and others that were completely strange. There was a herd of great oxlike creatures that resembled the beasts of the cave paintings in Altamira, aurochs perhaps, and they had a glimpse of a great cat stalking them that appeared to have immensely long tusks. A sabertooth tiger? All things were possible on this newly ripening desert world. They walked for five days through this strange landscape before they reached what could only be the Hudson River.

Except that, like the Colorado River, this river had cut an immense gorge through what had formerly been a barren landscape. They crept close to the high cliffs and peered over. There was no possible way to descend.

"South," Mark said, and turned along the edge, and the others followed him.

A day later they reached a spot where a tributary joined the Hudson and where the banks were lower and more graded. In addition, many seeds had been Sown or carried here, and strands of trees lined the shore. It took the Indians less than a day to assemble branches, trunks, and driftwood to make a sizable raft. Using strips of rawhide, they bound this firmly together, loaded their food aboard, then climbed aboard themselves. As the Indians poled and paddled, the clumsy craft left shore, was carried quickly out into the main current, and hurried south. Manhattan would be at the river's mouth.

This part of the trip was the easiest, and far swifter than Mark had realized. The landscape was so different from what he -knew of the valley, with alternate patches of vegetation and desert, that he found it hard to tell where they were. A number of fair-sized streams entered the river from the east, and there was no guarantee that the East River, which cut Manhattan off from the mainland, existed on this world. If it were there he thought it another tributary, for he never saw it. There were other high cliffs, so the Palisades were not that noticeable.

"This water is no good," Great Hawk said. He had scooped up a handful from the river, and he now spat it out. Mark dipped some himself. It was brackish, salty.

"The ocean, tidewater-we're near the mouth of the river! Pull to shore, quickly."

What he had thought was a promontory ahead showed nothing but wide water beyond it, the expanse of New York Harbor. They landed on- what would be the site of Battery Park on the southernmost tip of the island. The Indians worked in silence, unloading the raft, and when Mark started to speak, Great Hawk held his finger to his lips for silence, then leaned close to whisper in his ear.

"Men over this hill, very close. Smell them, smell the fire, they are cooking meat."

"Show me," Mark whispered in return.

He could not move as silently as the Oneida did; they vanished like smoke among the trees. Mark followed as quietly as he could, and a minute later Great Hawk was back to lead him. They crawled the last few yards on their stomachs under the bushes, hearing the sound of mumbled voices. The Indian moved a branch slowly aside, and Mark looked into the clearing.

Three khaki-clad soldiers were gathered around a fire over which a smoking carcass roasted. They had heavy rifles slung across their shoulders. A fourth, a sergeant with upside-down stripes, was stretched out asleep with his wide-brimmed hat over his face.

They spoke quietly in order not to waken him, a strangely

familiar language deep in their throats.

It was Dutch-not Dutch, Afrikaans. But what were they doing here?

Mark crawled back to the others, and by the time he had reached them, the answer was clear-too clear, and frightening. But it was the only possibility. He must tell them.

"Those men are soldiers. I know them. Warriors with noise sticks. I think they are the ones who took over the room and destroyed it. They are here, which must mean they have taken over the room here. Without it we cannot return."

"What must we do?" Great Hawk asked. The answer was obvious, but Mark hesitated to say it. He was a lawyer, or had been a lawyer-a man of the law. But what was the law here?

"If we are to return, we will have to kill them, without any noise, then kill or capture the others at the room. If we don't do that, we will be trapped here, cut off from the tribe forever,"

The Indians, who lived by hunting, and were no strangers • to tribal warfare, were far less worried about the killing than was Mark. They conferred briefly, and Great Hawk and three others vanished silently back among the trees. Mark sat, staring.sightlessly at the ground, trying to equate this with his civilized conscience. For a moment he envied the battered Sixim, who stood by his side, unbothered by emotions or worries. An owl called and the remaining Indians stood and called Mark after them.

The clearing was the same, the meat still smoked on the spit, the sergeant's hat was still over his eyes. But an arrow stood out starkly from his side below his arm. The huddled forms of the other soldiers revealed the instant, silent death that had spoken from the forest. With no show of emotion, the Indians cut the valuable arrows *free* of the corpses, commenting only on the pallid skin of the men, then looted their weapons and supplies. The guns might be useful; the arrows certainly were. Great Hawk was scouting the clearing and found a-to him-clearly marked trail. The sun was behind the trees when they started down it.

The building was not far away. They looked at it from hiding, the now familiar rusted and riveted plates of its walls, the heavy sealed door. Only, this door was gaping open, and the building itself was surrounded by a palisade of thin trees and shrubs. A guard stood at the only gate, and the enclosure wds filled with troops. Mark could see heavy weapons and mortars there.

"It will be hard to kill all of these without being killed ourselves," Great Hawk said…"So we shall not try."

The Indians could not be convinced even to consider action. They lay about in the gathering darkness, chewing on the tough slabs of meat, ignoring all of-Mark's arguments. They were as realistic as any animal, and not interested in suicide. A mountain lion attacks a deer, a deer runs from a lion-it never happens the other way around. They would wait here until morning and watch the camp, then decide what to do. But it was obvious that the options did not include an attack. Would it end this way, defeat without battle… and a barren lifetime on a savage planet stretching ahead of them? More barren to Mark, who had a civilized man's imagination and despair. The Indians had no such complications in their lives. They chewed the meat, the matter dismissed and forgotten, and in low whispers discussed the hunting and the animals while darkness fell. Mark sat, silent with despair; the Sixim loomed silent as a tree beside him. The Sixim would follow orders, but the two of them were not going to capture this armed camp. Something might happen-he must make the Indians stay and watch and help him. He doubted if they would.

Something did happen, and far sooner than he had thought. Great Hawk, who had slipped away to watch the building, came back suddenly and waved the others to follow him. They went to the fringe of the trees once more and looked at the activity in the camp with astonishment.

The gate was standing open, and there was no guard upon it.

All of the soldiers had drawn up in a semicircle facing the open door of the building. Fires had been lit near it. All of the heavy weapons had been trained on the opening.

"Don't you see what has happened!" Mark said excitedly. "They may control this building and others like it in other lines, but they cannot possibly control them all. They must be expecting a counterattack. They can do nothing until the attackers appear except wait and be ready. Do you understand-this is our chance! They are not expecting trouble from this flank. Get close in the darkness. Wait. Wait until the attack. Then we take out the machine guns-they are the real danger-sow confusion. Taken from the front and rear at the same time, they cannot win. Sixim, can you fire a rifle? One of these we captured?"

"I can. I have examined their mechanism."

"How is your aim?" It was a foolish question to ask.

"I hit what I aim at, every time."

"Then let us get close and get into positions. This may be our only chance. If we don't do it this time, there will probably be no second chance. Once they know we are out here, the guns will face both

ways. Come, we have to get close now."

He moved out toward the enclosure, the Sixim, rifle slung, limping at his side. The Indians stayed where they were. He turned back to them, but they were as solid and unmoving as rock in their silence. Nothing more could be done. This left only the two of them, man and machine man, to do their best.

They were almost too late, While they were still twenty yards' from the palisade, sudden fire erupted from inside the building; the South Africans guns roared in return. Mark ran, drawing ahead of the Sixim, running through the open gate, to fall prone in the darkness near the wall and to control his breathing. To squeeze off his shots carefully.

One gunner fell, then another. Tie Sixim was beside him, firing at target after target with machine regularity. Someone had seen the muzzle blast of their guns, because weapons were turned on them, bullets tearing into the earth beside them, soldiers running toward them. Mark's gun clicked out of battery, empty of cartridges. He tore the empty clip away, struggled to jam in a full one; the soldier was above him.

Falling to one side with an arrow in his chest. Darker shadows moved, just as a solid wave of Sixim erupted through the open doorway.

That was the beginning of the end. As soon as they were among the soldiers, the slaughter began, no mercy, no quarter. Mark called the Indians to him, to the protection of their own battered Sixim, before they were also cut down. The carnage was brief and complete, and when it was over, a familiar one-eyed figure emerged from the building,

"Arinix," Mark called out, and the man turned and came over, "How did all this happen?"

"They were suspicious; they had been watching us for a long time. That officer we did not kill led them to this building." He said it without malice or regret, a statement of fact. Mark had no answer.

"Is this the last of them? Is the way open now?"

"There are more, but they will be eliminated. You see what happens when others attempt to control the way between the worlds?" He started away, then turned back. "Have you solved the problem with the Indians? Will they settle this world?"

"I think so. I would like to stay with them longer, give them what help I can."

"You do not wish to return to Einstein?"

That was a hard one to answer. Back to New York and the pollution and the life as a lawyer. It suddenly seemed a good deal emptier than it had. "I don't know. Perhaps, perhaps not. Let me finish

here first."

Arinix turned away instantly and was gone. Mark went to Great Hawk, who sat cross-legged on' the ground and watched the operation with a great deal of interest. '

"Why did you and the others come to help?" Mark asked.

"It seemed too good a fight to miss. Besides, you said you would show us how to use the noise sticks. You could not do that if you were dead."

The smoke from the dying fires rose up in thin veils against the bright stars in the sky above. In his nostrils the air was cold and clean, its purity emphasized by the smell of wood smoke. Somewhere, not too far away, a wolf howled long and mournfully. This world, so recently empty of life, now had it in abundance, and would soon have human settlers as well, Indians of the Six Nations who would be escaping the fire that would destroy their own world. What sort of world would they make of it?

He had the sudden desire to see what would happen here, even to help in the shaping of it. The cramped life of a lawyer in a crowded world was without appeal. He had friends that he would miss, but he knew that new friends waited for him in the multiplicity of worlds he would soon visit. Really, there was no choice.

Arinix was by the open door issuing orders to the attentive Sixim. Mark called out to him.

The decision had really been an easy one.

Part 3. Earth Destroyed

What if the Universe and Sun are essentially undisturbed, but Earth itself undergoes a battering in a "Catastrophe of the Third Class"?

There have been dangers to Earth that were popular with science fiction writers in decades past but that have never really been in the astronomical cards. The planets of the solar system cannot be so perturbed in their movements that they begin a slow spiral into the Sun-not unless some method is provided for bleeding off their tremendous angular momentum. Nevertheless, it is a colorful possibility that sf hates to abandon ("Requiem" by Edmond Hamilton).

Today the Universe has become much more violent than m the old, old days of thirty years ago. We have learned about not merely exploding stars, but the cores of galaxies-billions of stars-that go up in agony. We deal with collapses into pulsars and black holes and the incredibly luminous quasars, And all of this gives writers the opportunity for dramatic ends indeed to Earth for the violence gives rise to radiation and that- ("At the Core" by Larry Nivenj,

The reverse is also dramatic. What if something happens to deprive us of our Sun altogether and we are threatened with ruin not through excess of energy but utter lack ("A Pail of Air" by Fritz Leiberi.

Nor need we feel we are entirely at the mercy of outside influences. Such is the power of Homo sapiens for evil that we can (and very likely are) ruining ourselves by the simple process of fouling our nest ("'King of the Hill" by Chad Oliver).

Requiem
by Edmond Hamilton

Kellon thought sourly that he wasn't commanding a star-ship, he was running a traveling circus. He had aboard telaudio men with tons of equipment, pontifical commentators who knew the answer to anything, beautiful females who were experts on the woman's angle, pompous bureaucrats after publicity, and entertainment stars who had come along for the same reason.

He had had a good ship and crew, one of the best in the Survey. *Had* had. They weren't any more. They had been taken off their proper job of pushing astrographical knowledge ever further into the remote regions of the galaxy, and had been sent off with this cargo of costly people on a totally unnecessary mission,

He said bitterly to himself, "Damn all sentimentalists."

He said aloud, "Does its position check with your calculated orbit, Mr. Riney?"

Riney, the Second, a young and serious man who had been fussing with instruments in the astrogation room, came out and said,

"Yes. Right on the nose. Shall we go in and land now?"

Kellon didn't answer for a moment, standing there in the front of the bridge, a middle-aged man, stocky, square-shouldered, and with his tanned, plain face showing none of the resentment he felt. He hated to give the order but he had to.

"All right, take her in."

He looked gloomily through -the filter-windows as they went in. In this fringe-spiral of the galaxy, stars were relatively infrequent, and there were only ragged drifts of them across the darkness. Full ahead shone a small, compact sun like a diamond. It was a white dwarf and had been so for two thousand years, giving forth so little warmth that the planets which circled it had been frozen and ice-locked all that time. They still were, all except the innermost world.

Kellon stared at that planet, a tawny blob. The ice that had sheathed it ever since its primary collapsed into a white dwarf had now melted. Months before, a dark wandering body had passed very close to this lifeless system. Its passing had perturbed the planetary orbits and the inner planets had started to spiral slowly in toward their sun, and the ice had begun to go.

Viresson, one of the junior officers, came into the bridge looking harassed. He said to Kellon,

"They want to see you down below, sir. Especially Mr. Borrodale. He says it's urgent."

Kellon thought wearily, Well, I might as well go down and face the pack of them. Herd's where they really begin.

He nodded to Viresson, and went do'wn below to the main cabin. The sight of it revolted him. Instead of his own men in it, relaxing or chinning, it held a small and noisy mob of overdressed, overloud men and women, all of whom seemed to be talking at once and uttering brittle, nervous laughter.

"Captain Kellon, I want to ask you-"

"Captain, if you *please*-"

He patiently nodded and smiled and plowed through them to Borrodale He had been given particular instructions to cooperate with Borrodale, the most famous tetaudio commentator in the Federation.

Borrodale was a slightly plump man with a round pink face and incongruously large and solemn black eyes. When he spoke, one recognized at once that deep, incredibly rich and meaningful voice.

"My first broadcast is set for thirty minutes from now, Captain. I shall want a view as we go in. If my men could take a mobile up to the bridge-"

Kellon nodded. "Of course. Mr. Viresson is up there and will assist them in any way."

"Thank you, Captain. Would you like to see the broadcast?"

"I would, yes, but-"

He was interrupted by Lorri Lee, whose glitteringly handsome face and figure and sophisticated drawl made her the idol of all female telaudio reporters.

"My broadcast is to be right after landing-remember? I'd like to do it alone, with just the emptiness of that world as background. Can you keep the others from spoiling the effect? Please?"

"We'll do what we can," Kellon mumbled. And as the rest of the pack converged on him he added hastily, "I'll talk to you later. Mr. Borrodale's broadcast-"

He got through them, following after Borrodale toward the cabin that had been set up as a telaudio-transmitter room. It had, Kellon thought bitterly, once served an honest purpose, holding the racks of soil and water and other samples from far worlds. But that had been when they were doing an honest Survey job, not chaperoning chattering fools on this sentimental pilgrimage.

The broadcasting set-up was beyond Kellon. He didn't want to hear this but it was better than the mob in the main cabin. He watched as Borrodale made a signal. The monitor-screen came alive.

It showed a dun-colored globe spinning in space, growing visibly larger as they swept toward it. Now straggling seas were identifiable upon it. Moments passed and Borrodale did not speak, just letting that picture go out. Then his deep voice spoke over the picture, with

dramatic simplicity.

"You are looking at the Earth," he said.

Silence again, and the spinning brownish ball was bigger now, with white clouds ragged upon it. And then Borrodale spoke again.

"You who watch from many worlds in the galaxy-this is the homeland of our race. Speak its name to yourselves. The Earth."

Kellon felt a deepening distaste. This was all true, but still it was phony. What was Earth now to him, or to Borrodale, or his billions of listeners? But it was a story, a sentimental occasion, so they had to pump it up into something big.

"Some thirty-five hundred years ago," Borrodale was saying, "our ancestors lived on this world alone. That was when they first went into space. To these other planets first-but very soon, to other stars. And so our Federation began, our community of human civilization on many stars and worlds."

Now, in the monitor, the view of Earth's dun globe had been replaced by the face of Borrodale in close-up. He paused dramatically.

"Then, over two thousand years ago, it was discovered that the sun of Earth was about to collapse into a white dwarf. So those people who still remained on Earth left it forever and when the solar change came, it and the other planets became mantled in eternal ice. And now, within months, the final end of the old planet of our origin is at hand. It is slowly spiraling toward the sun and soon it will plunge into it as Mercury and Venus have already done. And when that occurs, the world of man's origin will he gone forever."

Again the pause, for just the right length of time, and then Borrodale continued in a voice expertly pitched in a lower key.

"We on this ship-we humble reporters and servants of the vast telaudio audience on all the worlds-have come here so that in these next weeks we can give you this last look at our ancestral world. We think-we hope-that you'll find interest in recalling a past that is almost legend."

And Kellon thought, The bastard has no more interest in this old planet than I have, but he surely is smooth.

As soon as the broadcast ended, Kellon found himself besieged once more by the clamoring crowd in the main cabin. He held up his hand in protest.

"Please, now now-we have a landing to make first. Will you come with me, Doctor Darnow?"

Darnow was from Historical Bureau, and was the titular head of the whole expedition, although no one paid him much attention. He was a sparrowy, elderly man who babbled excitedly as he went with Kellon to the bridge.

He at least, *was* sincere in his interest, Kellon thought. For that

matter, so were all the dozen-odd scientists who were aboard. But they were far outnumbered by the fat cats and big brass out for publicity, the professional enthusers and sentimentalists. A real hell of a job the Survey had given him!

In the bridge, he glanced through the window at the dun-colored planet and its satellite. Then he asked Darnow, "You said something about a particular place where you wanted to land?"

The historiographer bobbed his head, and began unfolding a big, old-fashioned chart.

"See this continent here? Along its eastern coast were a lot of the biggest cities, like New York."

Kellon remembered that name, he'd learned it in school history, a long time ago.

Darnow's finger stabbed the chart. "If you could land there, right on the island-"

Kellon studied the relief features, then shook his head. "Too low. There'll be great tides as time goes on and we can't take chances. That higher ground back inland a bit should be all right, though."

Darnow looked disappointed. "Well. I suppose you're right."

Kellon told Riney to set up the landing-pattern. Then he asked Darnow skeptically,

"You surely don't expect to find much in those old cities now-not after they've had all that ice on them for two thousand years?"

"They'll be badly damaged, of course," Darnow admitted. "But there should be a vast number of relics. I could study here for years-"

"We haven't got years, we've got only a few months before this planet gets too close to the Sun," said Kellon. And he added mentally, "Thank God."

The ship went into its landing-pattern. Atmosphere whined outside its hull and then thick gray clouds boiled and raced around it. It went down through the cloud layer and moved above a dull brown landscape that had flecks of white in its deeper valleys. Far ahead there was the glint of a gray ocean. But the ship came down toward a rolling brown plain and settled there, and then there was the expected thunderclap of silence that always followed the shutting off of all machinery.

Kellon looked at Riney, who turned in a moment from the test-panel with a slight surprise on his face. "Pressure, oxygen, humidity, everything-all optimum." And then he said, "But of course. This place *was* optimum."

Kellon nodded. He said, "Doctor Darnow and I will have a look out first. Viresson, you keep our passengers in."

When he and Darnow went to the lower airlock he heard a buzzing clamor from the main cabin and he judged that Viresson was

having his hands full. The people in there were not used to being said no to, and he could imagine their resentment.

Cold, damp air struck a chill in Kellon when they stepped down out of the airlock. They stood on muddy, gravelly ground that squashed a little under their boots as they trudged away from the ship. They stopped and looked around, shivering.

Under the low gray cloudy sky there stretched a sad, sunless brown landscape. Nothing broke the drab color of raw soil, except the shards of ice still lingering in low places, A heavy desultory wind stirred the raw air, and then it was still. There was not a sound except the clink-clinking of the ship's skin cooling and contracting, behind them. Kellon thought that no amount of sentimentality could make this anything but a dreary world,

But Darnow's eyes were shining. "We'll have to make every minute of the time count," he muttered, "Every minute."

Within two hours, the heavy broadcast equipment was being trundled away from the ship on two motor-tracs that headed eastward. On one of the tracs rode Lorri Lee, resplendent in lilac-colored costume of synthesilk.

Kellon, worried about the possibility of quicksands, went along for that first broadcast from the cliffs that looked down on the ruins of New York. He wished he hadn't, when it got under way.

For Lorri Lee, her blond head bright even in the dull light, turned loose all her practiced charming gestures for the broadcast cameras, as she gestured with pretty excitement down toward the ruins.

"It's so *unbelievable!"* she cried to a thousand worlds. "To be here on Earth, to see the old places again-it *does* something to you!"

It did something to Kellon. It made him feel sick at his stomach. He turned and went back to the ship, feeling at that moment that if Lorri Lee went into a quicksand on the way back, it would be no great loss.

But that first day was only the beginning. The big ship quickly became the center of multifarious and continuous broadcasts. It had been especially equipped to beam strongly to the nearest station in the Federation network and its transmitters were seldom quiet.

Kellon found that Darnow, who was supposed to coordinate all this programming, was completely useless. The little historian was living in a seventh heaven on this old planet which had been uncovered to view for the first time in millennia, and he was away most of the time on field trips of his own. It fell to his assistant, an earnest and worried and harassed young man, to try to reconcile the clashing claims and demands of the highly temperamental broadcasting stars.

Kellon felt an increasing boredom at having to stand around

while all this tosh went out over the ether. These people were having a field-day but he didn't think much of them and of their broadcasts. Roy Quayle, the young male fashion designer, put on a semi-humorous, semi-nostalgic. display of the old Earth fashions, with the prettier girls wearing some of the ridiculous old costumes he had had duplicated. Harden, the famous teleplay producer, ran off ancient films of the old Earth dramas that had everyone in stitches. Jay Maxson, a rising politician in Federation Congress, discussed with Borrodale the governmental systems of the old days, in a way calculated to give his own Wide-Galaxy Party none the worst of it. The Arcturus Players, that brilliant group of young stage-folk, did readings of old Earth dramas and poems.

It was, Kellon thought disgustedly, just playing. Grown people, famous people, seizing the opportunity given by the accidental end of a forgotten planet to posture in the spotlight like smart-aleck children. There was real work to do in the galaxy, the work of the Survey, the endless and wearying but always-fascinating job of charting the wild systems and worlds. And instead of doing that job, he was condemned to spend weeks and months here with these phonies.

The scientists and historians he respected. They did few broadcasts and they did not fake their interest. It was one of them, Haller, the biologist, who excitedly showed Kellon a handful of damp soil a week after their arrival.

"Look at *that!"* he said proudly.

Kellon stared. "What?"

"Those seeds-they're common weed-grass seeds. Look at them."

Kellon looked, and now he saw that from each of the tiny seeds projected a new-looking hairlike tendril.

"They're sprouting?" he said unbelievingly.

Haller nodded happily. "I was hoping for it. You see, it was almost spring in the northern hemisphere, according to the records, when Sol collapsed suddenly into a white dwarf. Within hours the temperature plunged and the hydrosphere aad atmosphere began to freeze."

"But surely that would kill all plant-life?"

"Ne," said Haller. "The larger plants, trees, perennial shrubs, and so on, yes. But the seeds of the smaller annuals just froze into suspended animation. Now the warmth that melted them is causing germination."

"Then we'll have grass-small plants?"

"Very soon the way the warmth is increasing,"

It was, indeed, getting a little warmer all the time as these first weeks went *by.* The clouds lifted one day and there was brilliant, thin white sunshine from the little diamond sun. And there came a morning when they found the rolling landscape flushed with a pale

tint of green.

Grass grew. Weeds grew, vines grew, all of them seeming to rush their growth as though they knew that this, their last season, would not be long. Soon the raw brown mud of the hills and valleys had been replaced by a green carpet, and everywhere taller growths were shooting ap, and flowers beginning to appear. Hepaticas, bluebells, dandelions, violets, bloomed once more.

Kellon took a long walk, now that he did not have to plow through mud. The chattering people around the ship, the constant tug and pull of clashing temperaments, the brittle, febrile voices, got him down. He felt better to get away by himself.

The grass and the flowers had come back but otherwise this was still an empty world. Yet there was a certain peace of mind'in tramping up and down the long green rolling slopes. The sun was bright and cheerful now, and white clouds dotted the sky, and the warm wind whispered as he sat upon a ridge and looked away westward where nobody was, or would ever be again.

Damned dull, he thought. But at least it's better than back with the gabblers.

He sat for a long time in the slanting sunshine, feeling his bristling nerves relax. The grass stirred about him, rippling in long waves, and the taller flowers nodded.

No other movement, no other life, A pity, he thought, that there were no birds for this last spring of the old planet-not even a butterfly. Well, it made no difference, all this wouldn't last long.

As Kellon tramped back through the dusk, he suddenly became aware of a shining bubble in the darkening sky. He st amp;pped and stared up at it and then remembered. Of course, it was the old planet's moon-during the cloudy nights he had forgotten all about it. He went on, with its vague light about him.

When he stepped back into the lighted main cabin of the ship, he was abruptly jarred out of his relaxed mood. A first-class squabble was going on, and everybody was either contributing to it or commenting on it. Lorri Lee, looking like a pretty child complaining of a hurt, was maintaining that she should have broadcast time next day for her special women's-interest feature, and somebody else disputed her claim, and young Vallely, Darnow's assistant, looked harried and upset. Kellon got by them without being noticed, locked the door of his cabin and poured himself a long drink, and damned Survey all over again for this assignment.

He took good care to get out of the ship early in the morning, before the storm of temperament blew up again. He left Viresson in charge of the ship, there being nothing for any of them to do now anyway, and legged it away over the green slopes before anyone could

call him back.

They had five more weeks of this, Kellon thought. Then, thank God, Earth would be getting so near the sun that they must take the ship back into its proper element of space. Until that wished-for day arrived, he would stay out of sight as much as possible.

He walked miles each day. He stayed carefully away from the east and the ruins of old New York, where the others so often were. But he went north and west and south, over the grassy, flowering slopes of the empty world. At least it was peaceful, even though there was nothing at all to see.

But after a while, Kellon found that there were things to see if you looked for them. There was the way the sky changed, never seeming to look the same twice. Sometimes it was deep blue and white clouds sailed it like mighty ships. And then it would suddenly turn gray and miserable, and rain would drizzle on him, to be ended when a lance of sunlight shot through the clouds and slashed them to flying ribbons. And there was a time when, upon a ridge, he watched vast thunderheads boil up and darken in the west and black storm clouds marched across the land like an army with banners of lightning and drums of thunder.

The winds and the sunshine, the sweetness of the air and the look of the moonlight and the feel of the yielding grass under his feet, all seemed oddly right. Kellon had walked on many worlds under the glare of many-colored suns, and some of them he had liked much better than this one and some of them he had not liked at all, but never had he found a world that seemed so exactly attuned to his body as this outworn, empty planet.

He wondered vaguely what it had been like when there were trees and birds, and animals of many kinds, and roads and cities. He borrowed film-books from the reference library Darnow and the others had brought, and looked at them in his cabin of nights. He did not really care very much but at feast it kept him out of the broils and quarrels, and it had a certain interest.

Thereafter in his wandering strolls, Kellon tried to see the place as it would have been in the long ago. There would have been robins and bluebirds, and yellow-and-black bumblebees nosing the flowers, and tall trees with names that were equally strange to him, elms and willows and sycamores. And small furred animals, and humming clouds of insects, and fish and frogs in the pools and streams, a whole vast complex symphony of life, long gone, long forgotten.

But were all the men and women and children who had lived here less forgotten? Borrodale and the others talked much on their broadcasts about the people of old Earth, but that was just a faceless name, a term that meant nothing. Not one of those millions, surely,

had ever thought of himself as part of a numberless multitude. Each one had been to himself, and to those close to him or her, an individual, unique and never to be exactly repeated, and what did the glib talkers know of all those individuals, what could anyone know?

Kellon found traces of them here and there, bits of flotsam that even the crash of the ice had spared. A twisted piece of steel, a girder or rail that someone had labored to make. A quarry with the tool-marks still on the rocks, where surely men had once sweated in the sun. The broken shards of concrete that stretched away in a ragged line to make a road upon which men and women had once traveled, hurrying upon missions of love or ambition, greed or fear.

He found more than that, a startling find that he made by purest chance. He followed a brook that ran down a very narrow valley, and at one point he leaped across it and as he landed he looked up and saw that there was a house.

Kellon thought at first that it was miraculously preserved whole and unbroken, and surely that could not be, But when he went closer he saw that this was only illusion and that destruction had been at work upon it too. Still, it remained, incredibly, a recognizable house.

It was a rambling stone cottage with low walls and a slate roof, set close against the steep green wall of the valley. One gable-end was smashed in, and part of that end wall. Studying the way it was embayed in the wall, Kellon decided that a chance natural arch of ice must have preserved it from the grinding pressure that had shattered almost all other structures.

The windows and doors were only gaping openings. He went inside and looked around the cold shadows of what had once been a room. There were some wrecked pieces of rotting furniture, and dried mud banked along one wall contained unrecognizable bits of rusted junk, but there was not much else. It was chill and oppressive in there, and he went out and sat on the little terrace in the sunshine.

He looked at the house. It could have been built no later than the Twentieth Century, he thought. A good many different people must have lived in it during the hundreds of years before the evacuation of Earth.

Kellon thought that it was strange that the airphoto surveys that Darnow's men had made in quest of relics had not discovered the place. But then it was not so strange, the stone walls were so grayly inconspicuous and it was set so deeply into the sheltering bay of the valley wall.

His eye fell on'eroded lettering on the cement side of the terrace, and he went and brushed the soil off that place. The words were time-eaten and faint but he could read them.

"Ross and Jennie-Their House."

Kellon smiled. Well, at least he knew now who once had lived here, who probably had built the place. He could imagine two young people happily scratching the words in the wet cement, exuberant with achievement. And who had Ross and Jennie been, and where were they now?

He walked around the place. To his surprise, there was a ragged flower-garden'at one side. A half-dozen kinds of brilliant little flowers, unlike the wild ones of the slopes, grew in patchy disorder here. Seeds of an old garden had been ready to germinate when the long winter of Earth came down, and had slept in suspended animation until the ice melted and the warm blooming time came at last. He did not know what kinds of flowers these were, but there was a brave jaun-tiness about them that he liked.

Starting back across the green land in the soft twilight, Kellon thought that he should tell Darnow about the place. But if he did, the gabbling pack in the ship would certainly stampede toward it. He could imagine the solemn and cute and precious broadcasts that Borrodale and the Lee woman and rest of them would stage from the old house.

No, he thought. The devil with them.

He didn't care anything himself about the old house, it was just that it was a refuge of quiet he had found and he didn't want to draw to it the noisy horde he was trying to escape.

Kellon was glad in the following days that he had not told. The house gave him a place to go to, to poke around and investigate, a focus for his interest in this waiting time. He spent hours there, and never told anyone at all.

Haller, the biologist, lent him a book on the flowers of Earth, and he brought it with him and used it to identify those in the ragged garden. Verbenas, pinks, morning glories, and the bold red and yellow ones called nasturtiums. Many of these, he read, did not do well on other worlds and had never been successfully transplanted. If that was so, this would be their last blooming anywhere at all.

He rooted around the interior of the house, trying to figure out how people had lived in it. It was strange, not at all like a modern metalloy house. Even the interior walls were thick beyond belief, and the windows seemed small and ppkey. The biggest room was obviously where they had lived most, and its window-openings looked out on the little garden and the green valley and brook beyond.

Kellon wondered what they had been like, the Ross and Jennie who had once sat here together and looked out these windows. What things had been important to them? What had hurt them, what had made them laugh? He himself had never married, the far-ranging captains of the Survey seldom did. But he wondered about this

marriage of long ago, and what had come of it. Had they had children, did their blood still run on the far worlds? But even if it did, what was that now to those two of long ago?

There had been a poem about flowers at the end of the old book on flowers Halter had lent him, and he remembered some of it.

All are at one now, roses and lovers, Not known of the winds and the fields and the sea. Not a breath of the time that has been hovers In the air now soft with a summer to be.

Well, yes. Kellon thought, they were all at one *row,* the Bosses and the Jennies and the things they had done and the things they had thought, ail at one now in the dust of this old planet whose fiery final summer would be soon, very soon. Physically, everything that had been done, everyone who had lived, on Earth was still here in its atoms, excepting the tiny fraction of its matter that had sped to other worlds.

He thought of the names that were so famous still through all the galactic worlds, names of men and women and places. Shakespeare, Plato, Beethoven, Blake, and the splendor of Babylon and the bones of Angkor and the humble houses of his own ancestors, all here, all still here.

Kellon mentally shook himself. He didn't have enough to do, that was his trouble, to be brooding here on such shadowy things. He had seen all there was to this queer little old place, and there was no use in coming back to it.

But he came back. It was not, he told himself, as though he had any sentimental antiquarian interests in this old place. He had heard enough of that kind of gush from all the glittering phonies in the ship. He was a Survey man and all he wanted was to get back to his job, but while he was stuck here it was better to be roaming the green land or poking about this old relic than to have to listen to the endless babbling and quarreling of those others.

They were quarreling more and more, because they were tired of it here. It had seemed to them a fine thing to posture upon a galactic stage by helping to cover the end of Earth, but time dragged by and their flush of synthetic enthusiasm wore thin. They could not leave, the expedition must broadcast the final climax of the planet's end, but that was still weeks away. Darnow and his scholars and scientists, busy coming and going to many old sites, could have stayed here forever but the others were frankly bored.

But Kellon found in the old house enough interest to keep the waiting from being too oppressive. He had read a good bit now about the way things had been here in the good old days, and he sat long hours on the little terrace in the afternoon sunshine, trying to imagine what it had been like when the man and woman named Ross and

Jennie had lived here.

So strange, so circumscribed, that old life seemed now! Most people had had ground-cars in those days, he had read, and had gone back and forth in them to the cities where they worked. Did both the man and woman go, or just the man? Did the woman stay in the house, perhaps with their children if they had any, and in the afternoons did she do things in the little flower garden where a few bright, ragged survivors still bloomed? Did they ever dream that some future day when they were long gone, their house would lie empty and silent with no visitor except a stranger from far-off stars? He remembered a line in one of the old plays the Arcturus Players had read. "Come like shadows, so depart."

No, Kellon thought, Ross and Jennie were shadows now but they had not been then. To them, and to all the other people he could visualize going and coming busily about the Earth in those days, it was he, the future, the man yet to come, who was the shadow. Alone here, sitting and trying to imagine the long ago, Kellon had an eerie feeling sometimes that his vivid imaginings of people and crowded cities and movement and laughter were the reality and that he himself was only a watching wraith.

Summer days came swiftly, hot and hotter. Now the white sun was larger in the heavens and pouring down such light and heat as Earth had not received for millennia. And all the green life across it seemed to respond with an exultant surge of final growth, an act of joyous affirmation that Kellon found infinitely touching. Now even the nights were warm, and the winds blew thrilling soft, and on the distant beaches the ocean leaped up in a laughter of spray and thunder, running in great solar tides.

With a shock as though awakened from dreaming, Kellon suddenly realized that only a few days were left. The spiral was closing in fast now and very quickly the heat would mount beyond all tolerance.

He would, he told himself, be very glad to leave. There would be the wait in space until it was all over, and then he could go back to his own work, his own life, and stop fussing over shadows because there was nothing else to do.

Yes. He would be glad.

Then when only a few days were left, Kellon walked out again to the old house and was musing over it when a voice spoke behind him. "Perfect," said Borrodale's voice. "A perfect relic."

Kellon turned, feeling somehow startled and dismayed. Borrodale's eyes were alight with interest as he surveyed the house, and then he turned to Kellon.

"I was walking when I saw you, Captain, and thought I'd catch up

to you. Is this where you've been going so often?"

Kellon, a little guiltily, evaded. "I've been here a few times."

"But why in the world didn't you *tell* us about this?" exclaimed Borrodale. "Why, we can *do a* terrific final broadcast from here. A typical ancient home of Earth. Roy can put some of the Players in the old costumes, and we'll show them living here the way people did-"

Unexpectedly to himself, a violent reaction came up in Kellon. He said roughly,

"No."

Borrodale arched his eyebrows. "No?-But why not?"

Why not, indeed? What difference could it possibly make to him if they swarmed all over the old house, laughing at its ancientness and its inadequacies, posing grinning for the cameras in front of it, prancing about in old-fashioned costumes and making a show of it. What could that mean to him, who cared nothing about this forgotten planet or anything on it?

And yet something in him revolted at what they would do here, and he said,

"We might have to take off very suddenly, now. Having you all out here away from the ship could involve a dangerous delay."

"You said yourself we wouldn't take off for a few days yet!" exclaimed Borrodale. And he added firmly, "I don't know why you should want to obstruct us, Captain. But I can go over your head to higher authority."

He went away, and Kellon thought unhappily, He'll message back to Survey headquarters and I'll get my ears burned off, and why the devil did I do it anyway? I must be getting real planet-happy.

He went and sat down on the terrace, and watched until the sunset deepened into dusk. The moon came up white and brilliant, but the air was not quiet tonight. A hot, dry wind had begun to blow, and the stir of the tall grass made the slopes and plains seem vaguely alive. It was as though a queer pulse had come into the air and the ground, as the sun called its child homeward and Earth strained to answer. The house dreamed in the silver light, and the flowers in the garden rustled.

Borrodale came back, a dark pudgy figure in the moonlight. He said triumphantly,

"I got through to your headquarters. They've ordered your full cooperation. We'll want to make our first broadcast here tomorrow."

Kellon stood up. "No."

"You can't ignore an order-"

"We won't be here tomorrow," said Kellon. "It is my responsibility to get the ship off Earth in ample time for safety. We take off in the morning."

Borrodale was silent for a moment, and when he spoke his voice had *a* puzzled quality.

"You're advancing things just to block our broadcast, of course. I just can't understand your attitude."

Well, Keilon thought, he couldn't quite understand it himself, so how could he explain it? He remained silent, and Borrodale looked at him and then at the old house.

"Yet maybe I do understand," Borrodale said thoughtfully, after a moment. "You've come here often, by yourself. A man can get too friendly with ghosts-"

Kellon said roughly, "Don't talk nonsense. We'd better get back to the ship, there's plenty to do before takeoff."

Borrodale did not speak as they went back out of the moonlit valley. He looked back once, but Kellon did not look back.

They took the ship off twelve hours later, in a morning made dull and ominous by racing clouds. Kellon felt a sharp relief when they cleared atmosphere and were out in the depthless, starry blackness. He knew where he was, in space. It was the place where a spaceman belonged. He'd get a stiff reprimand for this later, but he was not sorry.

They put the ship into a calculated orbit, and waited. Days, many of them, must pass before the end came to Earth. It seemed quite near the white sun now, and its moon had slid away from it on a new distorted orbit, but even so it would be a while before they could broadcast to a watching galaxy the end of its ancestral world.

Kellon stayed much of that time in his cabin. The gush that was going out over the broadcasts now, as the grand finale approached, made him sick. He wished the whole thing was over. It was, he told himself, getting to be a bore-

An hour and twenty minutes to E-time, and he supposed he must go up to the bridge and watch it. The mobile camera had been set up there and Borrodale and as many others of them as could crowd in were there. Borrodale had been given the last hour's broadcast, and it seemed that the others resented this.

"Why must you have the whole last hour?" Lorri Lee was saying bitterly to Borrodale. "It's not fair."

Quayle nodded angrily. "There'll be the biggest audience in history, and we should all have a chance to speak."

Borrodale answered them, and the voices rose and bickered, and Kellon saw the broadcast technicians looking worried. Beyond them through the filter-window he could see the dark dot of the planet closing on the white star. The sun called, and it seemed that with quickened eagerness Earth moved on the last steps of its long road. And the clamoring, bickering voices in his ears suddenly brought rage

to Kellon.

"Listen," he said to the broadcast men. "Shut off all sound transmission. You can keep the picture on, but no sound."

That shocked them all into silence. The Lee woman finally protested, "Captain Kellon, you can't!"

"I'm in full command when in space, and I can, and do," he said.

"But the broadcast, the commentary-"

Kellon said wearily, "Oh, for Christ's sake all of you shut up, and let the planet die in peace."

He turned his back on them. He did not hear their resentful voices, did not even hear when they fell silent and watched through the dark filter-windows as he was watching, as the camera and the galaxy was watching. '

And what was there to see but a dark dot almost engulfed in the shining veils of the Sun? The thought that already the stones of the old house must be beginning to vaporize. And now the veils of light and fire almost concealed the little planet, as the star gathered in its own.

All the atoms of old Earth, Kellon thought, in this moment bursting free to mingle with the solar being, all that had been Ross and Jennie, all that had been Shakespeare and Schubert, gay flowers and running streams, oceans and rocks and the wind of the air, received into the brightness that had given them life.

They watched in silence, but there was nothing more to see, nothing at all. Silently the camera was turned off.

Kellon gave an order, and presently the ship was pulling out of orbit, starting on the long voyage back. By that time the others had gone, all but Borrodale. He said to Borrodale, without turning,

"Now go ahead and send your complaint to headquarters."

Borrodale shook his head. "Silence can be the best requiem of all. There'll be no complaint. I'm glad now, Captain."

"Glad?"

"Yes," said Borrodale. "I'm glad that Earth had one true mourner, at the last."

At the Core
by Larry Niven

I couldn't decide whether to call it a painting, a relief mural, a sculpture, or a hash; but it was the prize exhibit in the Art Section of the Institute of Knowledge on Jinx, The Kdatlyno must have strange eyes, I thought. My own were watering. The longer I looked at "FTLSPACE," the more blurred it got.

I'd tentatively decided that it was *supposed* to look blurred when a set of toothy jaws clamped gently on my arm. I jumped a foot in the air. A soft, thrilling contralto voice said, "Beowulf Shaeffer, you are a spendthrift."

That voice would have made a singer's fortune. And I thought I recognized it-but it couldn't be; *that* one was on We Made It, light-years distant. I turned.

The puppeteer had released my arm. It went ob: "And what do you think of Hrodenu?"

"He's ruining my eyes."

"Naturally. The Kdatlyno are blind to all but radar. 'FTLSPACE' is not meant to be seen but to be touched. Run your tongue over it."

"My tongue? No, thanks." I tried running my hand over it. If you want to know what it felt like, hop a ship for Jinx; the thing's still there. I flatly refuse to describe the sensation.

The puppeteer cocked its head dubiously. "I'm sure your tongue is more sensitive. No guards are nearby."

"Forget it. You know, you sound just like the regional president of General Products on We Made It."

"It was he who sent me your dossier, Beowulf Shaeffer. No doubt we had the same English teacher, I am the regional president on Jinx, as you no doubt recognized from my mane,"

Well, not quite. The auburn mop over the brain case between the two necks is supposed to show caste once you learn to discount variations of mere style. To do that, you have to be a puppeteer. Instead of admitting my ignorance, I asked, "Did that dossier.say I was a spendthrift?"

"You have spent more than a million stars in the past four years."

"And loved it."

"Yes. You will shortly be in debt again. Have you thought of doing more writing? I admired your article on the neutron star BVS-1. 'The pointy bottom of a gravity well…' 'Blue starlight fell on me like intangible sleet…' Lovely."

"Thanks. It paid well, too. But I'm mainly a spaceship pilot."

"It is fortunate, our meeting here. I had thought of having you found. Do you wish a job?"

That was a loaded question. The last and only time I took a job from a puppeteer, the puppeteer blackmailed me into it, knowing it would probably kill me. It almost did. I didn't hold that against the regional president of We Made It, but to let them have another crack at me-? "I'll give you a conditional 'Maybe.' Do you have the idea I'm a professional suicide pilot?"

"Not at all. If I show details, do you agree that the information shall be confidential?"

"I do," I said formally, knowing it would commit me. A verbal contract is as binding as the tape it's recorded on.

"Good. Come." He pranced toward a transfer booth.

The transfer booth let us out somewhere in Jinx's vacuum regions. It was night. High in the sky, Sirius B was a painfully bright pinpoint casting vivid blue moonlight on a ragged lunar landscape. I looked up and didn't see Binary, Jinx's bloated orange companion planet, so we must have been in the Farside End.

But there was something hanging over us.

A No. 4 General Products hull is a transparent sphere a thousand-odd feet in diameter. No bigger ship has been built anywhere in the known galaxy. It takes a government to buy one, and they are used for colonization projects only. But this one could never have been so used; it was all machinery. Our transfer booth stood between two of the landing legs, so that the swelling flank of the ship looked down on us as an owl looks down at a mouse. An access tube ran through the vacuum from the booth to the airlock.

I said, "Does General Products build complete spacecraft nowadays?"

"We are thinking of branching out. But there are problems."

From the viewpoint of the puppeteer-owned company, it must have seemed high time. General Products makes the hulls for ninety-five percent of all ships in space, mainly because nobody else knows how to build an indestructible hull. But they'd made a bad start with this ship. The only room I could see for crew, cargo, or passengers was a few cubic yards of empty space right at the bottom, just above the airlock, and just big enough for a pilot.

"You'd have a' hard time selling that," I said.

"True. Do you notice anything else?"

"Well…" The hardware that filled the transparent hull was very tightly packed. The effect was as if a race of ten-mile-tall giants had striven to achieve miniaturization. I saw no sign of access tubes; hence there could be no m-space repairs. Four reaction motors poked their appropriately huge nostrils through the hull, angled outward from the

bottom. No small attitude jets; hence, oversized gyros inside. Otherwise… "Most of it looks like hyperdrive motors. But that's silly. Unless you've thought of a good reason for moving moons around?"

“At one time you were a commercial pilot for Nakamura Lines. How long was the run from Jinx to We Made It?”

"Twelve days if nothing broke down." Just long enough to get to know the prettiest passenger aboard, while the autopilot did everything for me but wear my uniform.

"Sirius to Procyon is a distance of four light-years. Our ship would make the trip in five minutes."

"You've lost your mind."

"No."

But that was almost a light-year per minute! I couldn't visualize it. Then suddenly I did visualize it, and my mouth fell open, for what I saw was the galaxy opening before me. We know so little beyond our own small neighborhood of the galaxy. But with a ship like that-

"That's goddam fast."

"As you say. But the equipment is bulky, as you note. It cost seven billion stars to build that ship, discounting centuries of research, but it will only move one man. As is, the ship is a failure. Shall we go inside?"

The lifesystem was two circular rooms, one above the other, with a small airlock to one side. The lower room was the control room, with banks of switches and dials and blinking lights dominated by a huge spherical mass pointer. The upper room was bare walls, transparent, through which I could see air- and food-producing equipment.

"This will be the relaxroom," said the puppeteer. "We decided to let the pilot decorate it himself."

"Why me?"

"Let me further explain the problem." The puppeteer began to pace the floor. I hunkered down against the wall and watched. Watching a puppeteer move is a pleasure. Even in Jinx's gravity the deerlike body seemed weightless, the tiny hooves tapping the floor at random. "The human sphere of colonization is some thirty light-years across, is it not?"

"Maximum. It's not exactly a sphere-"

"The puppeteer region is much smaller. The Kdatlyno sphere is half the size of yours, and the Kzinti is fractionally larger. These are the important space-traveling species. We must discount the Outsiders since they do not use ships. Some spheres coincide, naturally. Travel from one sphere to another is nearly nil except for ourselves, since our sphere of influence extends to all who buy our hulls. But add all these regions, and you have a region sixty light-years across. This ship could

cross it in seventy-five minutes. Allow six hours for takeoff and six for landing, assuming no traffic snarls near the world of destination, and we have a ship which can go anywhere in thirteen hours but nowhere in less than twelve, carrying one pilot and no cargo, costing seven billion stars."

"How about exploration?"

"We puppeteers have no taste for abstract knowledge. And how should we explore?" Meaning that whatever race flew the ship would gain the advantages thereby. A puppeteer wouldn't risk his necks by flying it himself. "What we need is a great deal of money and a gathering of intelligences, to design something which *may go* slower but *must* be less bulky. General Products (Joes not wish to spend so much on something that may fail. We will require the best minds of each sentient species and the richest investors. Beowulf Shaeffer, we need to attract attention."

"A publicity stunt?"

"Yes. We wish to send a pilot to the center of the galaxy and back."

"Ye…gods! Will it go *that* fast?"

"It would require some twenty-five days to reach the center and an equal time to-return. You can see the reasoning behind-"

"It's perfect. You don't need to spell it out. Why me?"

"We wish you to make the trip and then write of it. I have a list of pilots who write. Those I have approached have been reluctant. They say that writing on the ground is safer than testing unknown ships. I follow their reasoning."

"Me too."

"Will you go?"

"What am I offered?"

"One hundred thousand stars for the trip. Fifty thousand to write the story, in addition to what you sell it for."

"Sold."

From then on, my only worry was that my new boss would find out that someone had ghost-written that neutron star article.

Oh, I wondered at first why General Products was willing to trust, me. The first time I worked for them I tried to steal their ship, for reasons which seemed good at the time. But the ship I now called *Long Shot* really wasn't worth stealing… Any potential buyer would know it was hot; and what good would it be to him? *Long Shot* could have explored a globular cluster; but her only other use was publicity.

Sending her to the Core was a masterpiece of promotion.

Look: It was twelve days from We Made It to Jinx by conventional craft, and twelve hours by *Long Shot.* What's the difference? You spent twelve years saving for the trip. But the Core! Ignoring refueling and

reprovisioning problems, my old ship could have reached the galaxy's core in three hundred years. No known species had ever *seen* the Core! It hid behind layer on layer of tenuous gas and dust clouds. You can find libraries of literature on those central stars, but they all consist of generalities and educated guesses based on observation of other galaxies, like Andromeda.

Three centuries dropped to less than a month! There's something anyone can grasp. And with pictures!

The lifesystem was finished in a couple of weeks. I had them leave the control-room walls transparent and paint the relaxroom solid blue, no windows. When they finished, I had entertainment tapes and everything it takes to keep a man sane for seven weeks in a room the size of a large closet.

On the last day the puppeteer and I spoke the final version of my contract. I had four months to reach the galaxy's center and return. The outside cameras would run constantly; I was not to interfere with them. Jf the ship suffered a mechanical failure, I could return before reaching the center; otherwise, no. There were penalties. I took a copy of the tape to leave with a lawyer.

"There is a thing you should know," the puppeteer said afterward. "The direction of thrust opposes the direction of hyperdrive." "I don't get it."

The puppeteer groped for words. "If you turned on the reaction motors and the hyperdrive together, the flames would precede your ship through hyperspace."

I got the picture then. Ass backward into the unknown. With the control room at the ship's bottom, it made sense. To a puppeteer, it made sense.

And I was off.

I went up under two standard gees because I like my comfort. For twelve hours I used only the reaction motors. It wouldn't do to be too deep in a gravity well when 1 used a hyperdrive, especially an experimental one. Pilots who do that never leave hyperspace. The relaxroom kept me entertained until the bell rang. I slipped down to the control room, netted myself down against free fall, turned off the motors, rubbed my hands briskly together, and turned on the hyperdrive.

It wasn't quite as I'd expected.

I couldn't see out, of course. When the hyperdrive goes on, it's like your blind spot expanding to take in all the windows, It's not just that you don't see anything; you forget that there's anything to see. If there's a window between the kitchen control bank and your print of Dali's "Spam," your eye and mind will put the picture right next to the

kitchen bank, obliterating the space between. It takes getting ased to, in fact it has driven people insane, but that wasn't what bothered *me.* I've spent thousands of man-hours in hyper-space. I kept my eye on the mass pointer.

The mass pointer is a big transparent sphere with a number of blue lines radiating from the center. The direction of the line is the direction of a star; its length shows the star's mass. We wouldn't need pilots if the mass pointer could be hooked into an autopilot, but it can't. Dependable as it is, accurate as it is, the mass pointer is a psionic device. It needs a mind to work it. I'd been using mass pointers for so long that those lines were like real stars.

A star came toward me, and I dodged around it. I thought that another line that didn't point *quite* straight ahead was long enough to show dangerous mass, so I dodged. That put a blue dwarf right in front of me. I shifted fast and looked for a throttle. I wanted to slow down.

Repeat, *Iwanted to slow down.*

Of course there was no throttle. Part of the puppeteer research project would be designing a throttle. A long fuzzy line reached for me: a protosun-

Put it this way: Imagine one of Earth's freeways. You must have seen pictures of them from space, a tangle of twisting concrete ribbons, empty and abandoned but never torn down. Some lie broken; others are covered with houses. People use the later rubberized ones for horseback riding. Imagine the way one of these must have looked about six o'clock on a week night in, say, nineteen seventy. Groundcars from end to end.

Now, let's take all those cars and remove the brakes. Further, let's put governors on the accelerators, so that the maximum speeds are between sixty and seventy miles per hour, not all the same. Let something go wrong with all the governors at once, so that the maximum speed also becomes the minimum. You'll begin to see signs of panic.

Eeady? Okay. Get a radar installed in your car, paint your windshield and windows jet black, and get out on that freeway.

It was like that.

It didn't seem so bad at first. The stars kept coming at me, and I kept dodging, and after a while it settled down to a kind of routine. From experience I could tell at a glance whether a star was heavy enough and close enough to wreck me. But in Nakamura Lines I'd only had to take that glance every six hours or so. Here I didn't dare look away. As I grew tired, the near-misses came closer and closer. After three hours of it I had to drop out.

The stars had a subtly unfamiliar look. With a sudden jar I

realized that I was entirely out of known space. Sirius, Antares-I'd never recognize them from here; I wasn't even sure they were visible. I shook it off and called home.

"*Long Shot* calling General Products, *Long Shot* calling-"

"Beowulf Shaeffer?"

"Have I ever told you what a lovely, sexy voice you have?"

"No. Is everything going well?"

"I'm afraid not. In fact, I'm not going to make it."

A pause. "Why not?"

"I can't keep dodging these stars forever. One of them's going to get me if I keep on much longer. The ship's just too goddam fast."

"Yes. We must design a slower ship."

"I hate to give up that good pay, but my eyes feel like peeled onions. I ache all over. I'm turning back."

"Shall I play your contract for you?"

"No. Why?"

"Your only legal reason for returning is a mechanical failure. Otherwise you forfeit twice your pay."

I said, "Mechanical failure?" There was a tool box somewhere in the ship, with a hammer in it…

"I did not mention it before, since it did not seem polite, but two of the cameras are in the lifesystem. We had thought to use films of you for purposes of publicity, but-"

"I see. Tell me one thing, just one thing. When the regional president of We Made It sent you my name, did he mention that I'd discovered your planet has no moon?"

"Yes, he did mention that matter. You accepted one million stars for your silence. He naturally has a recording of the bargain."

"I see." So that's why they'd picked Beowulf Shaeffer, well-known author. "The trip'll take longer than I thought."

"You must pay a penalty for every extra day over four months. Two thousand stars per day late."

"Your voice has acquired an unpleasant grating sound. Good-bye."

I went on in. Every hour I shifted to normal space for a ten-minute coffee break. I dropped out for meals, and I dropped out for sleep. Twelve hours per ship's day I spent traveling, and twelve trying to recover. It was a losing battle.

By the end of day two I knew I wasn't going to make the four-month limit. I might do it in six months, forfeiting one hundred and twenty thousand stars, leaving me almost where I started. Serve me right for trusting a puppeteer!

Stars were all around me, shining through the floor and between the banked instruments. I sucked coffee, trying not to think. The milky way shone ghostly pale between my feet. The stars were thick now;

they'd get thicker as I approached the Core, until finally one got me.

An idea! And about time, too.

The golden voice answered immediately. "Beowulf Shaef-fer?"

"There's nobody else here, honey. Look, I've thought of something. Would you send-"

"Is one of your instruments malfunctioning, Beowulf Shaeffer?"

"No, they all work fine, as far as they go. Look-"

"Then what could you possibly have to say that would require my attention?"

"Honey, now is the time to decide. Do you want revenge, or do you want your ship back?"

A small silence. Then, "You may speak."

"I can reach the Core much faster if I first get into one of the spaces between the arms. Do we know enough about the galaxy to know where our arm ends?"

"I will send to the Institute of Knowledge to find out."

"Good."

Four hours later I was dragged from a deathlike sleep by the ringing of the hyperphone. It was not the president, but some flunky, I remembered calling the puppeteer "honey" last night, tricked by my own exhaustion and that seductive voice, and wondered if I'd hurt his puppeteer feelings. "He" might be a male; a puppeteer's is one of his little *secrets.* The flunky gave me a bearing and distance for the nearest gap between stars.

It took me another day to get there. When the stars began to thin out, I could hardly believe it. I turned off the hyper-drive, and it was true. The stars were tens and hundreds of light-years apart. I could see part of the Core peeking in a bright rim above the dim flat cloud of mixed dust and stars.

From then on, it was better, f was safe if I glanced at the mass pointer every ten minutes or so. I could forget the rest breaks, eat meals and do isometrics while watching the pointers. For eight hours a day I slept, but during the other sixteen I moved. The gap swept toward the Core in a narrowing curve, and I followed it.

As a voyage of exploration the trip would have been a fiasco. I saw nothing. I stayed well away from anything worth seeing. Stars and dust, anomalous wispy clusters shining in the dark of the gap, invisible indications that might have been stars-my cameras picked them up from a nice safe distance, showing tiny blobs of light. In three weeks I moved almost seventeen thousand light-years toward the Core.

The end of those three weeks was the end of the gap. Before me was an uninteresting wash of stars backed by a wall of opaque dust clouds. I still had thirteen thousand light-years to go before I reached

the center of the galaxy.

I took some pictures and moved in.

Ten-minute breaks, mealtimes that grew longer and longer for the rest they gave, sleep periods that left my eyes red and burning. The stars were thick and the dust was thicker, so that the mass pointer showed a blur of blue broken by sharp blue lines. The lines began to get less sharp. I took breaks every half hour-

Three days of that.

It was getting near lunchtime on the fourth day. I sat watching the mass pointer, noting the fluctuations in the blue blur which showed the changing density of the dust around me. Suddenly it faded out completely. Great! Wouldn't it be nice if the mass pointer went out on me? But the sharp " starlines were still there, ten or twenty of them pointing in all directions. I went back to steering. The clock chimed to indicate a rest period. I sighed happily and dropped into normal space.

The clock showed I had half an hour to wait for lunch, i thought about eating anyway, decided againsf it. The routine was all that kept me going. I wondered what the sky looked like, reflexively looked up so I wouldn't have to look down at the transparent floor. That big an expanse of hyperspace is hard even on trained eyes. I remembered I wasn't in hyperspace and looked down.

For a time I jus? stared. Then, without taking my eyes off the floor, I reached for the hyperphone,-

"Beowulf Shaeffer?"

"No, this is Albert Einstein. I stowed away when the *Long Shot* took off, and I've decided to turn myself in for the reward."

"Giving misinformation is an implicit violation of contract. Why have you called?"

"I can see the Core;"

"That is not a reason to call. It was implicit in your eon-tract that you would see the Core."

"Dammit, don't you care? Don't you want to know what it looks like?"

"If you wish to describe it now, as a precaution against accident, I will switch you to a dictaphone. However, if your mission is not totally successful, we cannot use your recording."

I was thinking up a really searing answer when I heard the click. Great, my boss had hooked me into a dictaphone. I said one short sentence and hung up.

The Core.

Gone were the obscuring masses of dust and gas. A billion years ago they must have been swept up for fuel by the hungry, crowded stars. The Core lay before me like a great jeweled sphere. I'd expected

it to be a gradual thing, a thick mass of stars thinning out into the arms. There was nothing gradual about it. A clear ball of multicolored light five or six thousand light-years across nestled in the heart of the galaxy, sharply bounded by the last of the dust clouds. I was ten thousand four hundred light-years from the center.

The red stars were the biggest and brightest. I could actually pick some of them out as individuals. The rest was a finger painting in fluorescent green and blue. But those red stars…they would have sent Aldebaran back to kindergarten.

It was all so *bright*. I needed the telescope to see black between the stars.

I'll *show* you how bright it was.

Is it night where you are? Step outside and look at the stars. What color are they? Antares may show red, if your near enough; in the System, so will Mars. Sirius may ahow bluish. But all the rest are white pinpoints. Why? Because it's *dark*. Your day vision is in color, but at night you see black-and-white, like a dog.

The Core suns were bright enough for color vision.

I'd pick a planet here! Not in the Core itself, but right out here, with the Core on one side and on the other the dimly starred dust clouds forming their strange convoluted curtain. Man, what a view! Imagine that flaming jeweled sphere rising in the east, hundreds of times as big as Binary shows on Jinx; but without the constant feeling Binary gives you, the fear that the orange world will fall on you; for the vast, twinkling Core is only starlight, lovely and harmless. I'd pick my world *now* and stake a claim. When the puppeteers got their drive fixed up, I'd have the finest piece of real estate in the known universe! If I could only find a habitable planet.

If only I could find it twice.

Hell, I'd be lucky to find my way *home* from here. I shifted into hyperspace and went back to work.

An hour and fifty minutes, one lunch break and two rest breaks, and fifty light-years later, I noticed something peculiar in the Core,

It was even clearer then, if not much bigger; I'd passed through the almost transparent wisps of the last dust cloud. Not too near the center of the sphere was a patch of white, bright enough to make the green and blue and red look dull around it. I looked for it again at the neyt break, and it was a little brighter. It was brighter again at the next break-

"Beowulf Shaeffer?"

"Yah. I-"

"Why did you use the dictaphone to call me a cowardly two-headed monster?"

"You were off the line. I *had* to use the dictaphone."

"That is sensible. Yes. We puppeteers have never understood your attitude toward a natural caution." My boss was peeved, though you couldn't tell from his voice.

"I'll go into that if you like, but it's not why I called."

"Explain, please."

"I'm all for caution. Discretion is the better part of valor, and like that. You can even be good businessmen, because it's easier to survive with lots of money. But you're so damn concerned with various kinds of survival that you aren't even interested in something that isn't a threat. Nobody but a puppeteer would have turned down my offer to describe the Core."

"You forget the Kzinti,"

"Oh, the Kzinti." Who expects rational behavior from Kzinti? You whip them when they attack; you reluctantly decide not to exterminate them; you wait till they build up their strength; and when they attack, you whip 'em again. Meanwhile you sell them foodstuffs and buy their metals and employ them where you need good games theorists. It's not as if they were a real threat. They'll *always* attack before they're ready.

"The Kzinti are carnivores. Where we are interested in survival, carnivores are interested in meat alone. They conquer because subject peoples can supply them with food, They cannot do menial work. Animal husbandry is alien to them. They must have slaves or be barbarians roaming the forests for meat. Why should they be interested in what you call abstract knowledge? Why should any thinking being, if the knowledge has no chance of showing a profit? In practice, your description Of the Core would attract only an omnivore."

"You'd make a good case if it were not for the fact that most sentient races are omnivores."

"We have thought long and hard on that."

Ye cats. I was going to have to think long and hard on *that.*

"Why did you call, Beowulf Shaeffer?"

Oh, yeah, "Look, I know you don't want to know what the Core looks like, but I see something that might represent personal danger. You have access to information I don't. May I proceed?"

"You may,"

Hah! I was learning to think like a puppeteer. Was that good? I told my boss about the blazing, strangely shaped white patch in the Core. "When I turned the telescope en it, it nearly blinded me. Grade two sunglasses don't give any details at all. It's just a shapeless white patch, but so bright that the stare m front look like black dots with colored rims, I'd like to know what's causing it."

"It sounds very unusual," Pause. 'Is the white color uniform? Is the brightness uniform?"

"Just a sec." I used the scope again. "The color is, but the brightness isn't. I see dimmer areas inside the patch, I think the center is fading out."

"Use the telescope to find a nova star. There ought to be several in such a large mass of stars."

I tried it. Presently I found something: a blazing disk of a peculiar blue-white color with a dimmer, somewhat smaller red disk half in front of it. That *had* to be a nova. In the core of Andromeda galaxy, and in what I'd seen of our own Core, the red stars were the biggest and brightest.

"I've found one."

"Comment."

A moment more and I saw what he meant. "It's the same color as the patch. Something like the same brightness, too. But what could make a patch of supernovas go off all at once?"

"You have studied the Core. The stars of the Core are an average of half a light-year apart. They are even closer near the center, and no dust clouds dim their brightness. When stars are that close, they shed enough light on each other to increase materially each other's temperature. Stars burn faster and age faster in the Core."

"I see that,"

"Since the Core stars age faster, a much greater portion are near the supernova stage than in the arms. Also, all are hotter considering their respective ages. If a star were a few millennia from the supernova stage, and a supernova exploded half a light-year away, estimate the probabilities."

"They might both blow. Then the two could set off a third, and the three might take a couple more…"

"Yes. Since a supernova lasts-on the order of one human standard year, the chain reaction would soon die out. Your patch of light must have occurred in this way."

"That's a relief. Knowing what did it, I mean. I'll take pictures going in,"

"As you say." Click.

The patch kept expanding as I went in, still with no more shape than a veil nebula, getting brighter and bigger. It hardly seemed fair, what I was doing. The light which the patch novas had taken fifty years to put out, I covered in an hour, moving down the beam at a speed which made the universe itself seem unreal. At the fourth rest period I dropped out of hyperspace, looked down through the floor while the cameras took their pictures, glanced away from the patch for a moment, and found myself blinded by tangerine afterimages. I

had to put on a pair of grade one sunglasses, out of the packet of twenty which every pilot carries for working near suns during takeoff and landing.

It made me shiver to think that the patch was stil! nearly ten thousand light-years away. Already the radiation must have killed all life in the Core if there ever had been life there. My instruments on the hull showed radiation like a solar flare.

At the next stop I needed grade two sunglasses. Somewhat later, grade three. Then four. The patch became a great bright amoeba reaching twisting tentacles of fusion fire deep into the vitals of the Core. In hyperspace the sky was jammed bumper to bumper, so to speak, but I never thought of stopping. As the Core came closer, the patch grew like something alive, something needing ever more food. I think I knew, even then.

Night came. The control room was a blaze of light. I slept in the relaxroom, to the tune of the laboring temperature control. Morning, and I was off again. The radiation meter snarled its death-song, louder during each rest break. If I'd been planning to go outside, J would have dropped that plan. Radiation Couldn't get through a General Products hull. Nothing else can, either, except visible light.

I spent a bad half hour trying to remember whether one of the puppeteers' customers saw X-rays. I was afraid to call up and ask.

The mass pointer began to show a faint blue blur. Gases thrown outward from the patch. I had to keep changing sunglasses..,.

Sometime during the morning of the next day I stopped. There was no point in going farther.

"Beowulf Shaeffer, have you become attached to the sound of my voice? I have other work than supervising your progress."

"I would like to deliver a lecture on abstract knowledge,"

"Surely it can wait until your return."

"The galaxy is exploding."

There was a strange noise. Then: "Repeat, please."

"Have I got your attention?"

"Yes."

"Good. I think I know the reason so many sentient races are omnivores. Interest in abstract knowledge is a symptom of pure curiosity. Curiosity must be a survival trait."

"Must we discuss this? Very well. You may well be right.

Others have made the same suggestion, including puppeteers. But how has our species survived at all?"

"You must have some substitute for curiosity. Increased intelligence, maybe. You've been around long enough to develop it. Our hands can't compare with your mouths for tool-building. If a watchmaker had taste and smell in his hands, he still wouldn't have

the strength of your jaws or the delicacy of those knobs around your lips. When I want to know how old a sentient race is, I watch what he uses for hands and feet."

"Yes. Human feet are still adapting to their task of keeping you erect. You propose, then, that our intelligence has grown sufficiently to ensure our survival without depending on your hit-or-miss method of learning everything you can for the sheer pleasure of learning."

"Not quite. Our method is better. If you hadn't sent me to the Core for publicity, you'd never have known about this."

"You say the galaxy is exploding?"

"Rather, it finished exploding some nine thousand years ago. I'm wearing grade twenty sunglasses, and it's still too bright. A third of the Core is gone already. The patch *is* spreading at nearly the speed of light. I don't see that anything can stop it until it hits the gas clouds beyond the Core,"

There was no comment. I went on. "A lot of the inside of the patch has gone out, but all of the surface is new novas. And remember, the light I'm seeing is nine thousand years old. Now, I'm going to read you a few instruments. Radiation, two hundred and ten. Cabin temperature normal, but you can hear the whine of the temperature control. The mass indicator shows nothing but a blur ahead. I'm turning back."

"Radiation two hundred and ten? How far are you from the edge of the Core?"

"About four thousand light-years, I think. I can see plumes of incandescent gas starting to form in the near side of the patch, moving toward galactic north and south. It reminds me of something. Aren't there pictures of exploding galaxies in the Institute?"

"Many. Yes, it has happened before. Beowulf Shaeffer, this is bad news. When the radiation from the Core reaches our worlds, it will sterilize them. We puppeteers will soon need considerable amounts of money. Shall I release you from your contract, paying you nothing?"

I laughed. I was too surprised even to get mad. "No,"

"Surely you do not intend to enter the Core?"

"No. Look, why do you-"

"Then by the conditions of our contract, you forfeit."

"Wrong again. I'll take pictures of these instruments. When a court sees the readings on the radiation meter and the blue blur in the mass indicator, they'll *know* wrong with them."

"Nonsense. Under evidence drugs you will explain the readings."

"Sure. And the court will know you tried to get me to go right to the center of that holocaust. You know what they'll say to that?"

"But how can a court of law find against a recorded contract?"

"The point is they'll want to. Maybe they'll decide that we're both

lying and the instruments really did go haywire. Maybe they'll find a way, to say the contract was illegal. But they'll find against you. Want to make a side bet?"

"No. You have won. Come back."

The Core was a lovely multicolored jewel when it disappeared below the lens of the galaxy, I'd have liked to visit it someday, but there aren't any time machines,

I'd penetrated nearly to the Core in something like a month. I took my time coming home, going straight up along galactic north and flying above the lens where there were no stars to bother me, and still made it in two. All the way I wondered why the puppeteer had tried to cheat me at *the* last. *Long Shot's* publicity would have been better than ever; yet the regional president had been willing to throw it away just to leave me broke. I couldn't ask why, because nobody was answering my hyperphone. Nothing I knew about puppeteers could tell me. I felt persecuted.

My come-hither brought me down at the base in the Far-side End. Nobody was there. I took the transfer booth back to Sirius Mater, Jinx's biggest city, figuring to contact General Products, turn over the ship, and pick up my pay.

More surprises awaited me.

1) General Products had paid one hundred and fifty thousand stars into my account in the Bank of Jinx. A personal note stated that whether or not I wrote my article was solely up to me.

2) General Products has disappeared. They are selling no more spacecraft hulls. Companies with contracts have had their penalty clauses paid off. It all happened two months ago, simultaneously on all known worlds.

3) The bar I'm in is on the roof of the tallest building in Sirius Mater, more than a mile above the streets. Even from here I can hear the stock market crashing. It started with the collapse of spacecraft companies with no hulls to build ships. Hundreds of others have followed. It takes a long time for an interstellar market to come apart at the seams, but, as with the Core novas, I don't see anything that can stop the chain reaction.

4) The secret of the indestructible General Products hull is being advertised for sale. General Products' human rep resentatives will collect bids for one year, no bid to be less than one trillion stars. Get in on the ground floor, folks.

5) Nobody knows anything. That's what's causing most of the panic. It's been a month since a puppeteer was seen on any known world. Why did they drop so suddenly out of interstellar affairs?

I know.

In twenty thousand years a flood of radiation will wash over this region of space. Thirty thousand light-years may seem a long, safe distance, but it isn't, not with this big an explosion. I've asked. The Core explosion will make this galaxy uninhabitable to any known form of life.

Twenty thousand years *is a* long time. It's four times as long as human written history. We'll all be less than dust before things get dangerous, and I for one am not going to worry about it.

But the puppeteers are different. They're scared. They're getting out right now. Paying off their penalty clauses and buying motors and other equipment to put in their indestructible hulls will take so much money that even confiscating my puny salary would have been a step to the good. Interstellar business can go to hell; from now on, the puppeteers will have no time for anything but running.

Where will they go? Well, the galaxy is surrounded by a halo of small globular clusters. The ones near the rim might be safe. Or the puppeteers may even go as far as Andromeda. They have the *Long Shot* for exploring if they come back for it, and they can build more. Outside the galaxy is space empty enough even for a puppeteer pilot, if he thinks his species is threatened.

It's a pity. This galaxy will be dull without puppeteers, Those two-headed monsters were not only the most dependable faction in interstellar business; they were like water in a wasteland of more-or-less humanoids. It's too bad they aren't brave, like us.

But is it?

I never heard of a puppeteer refusing to face a problem. He may merely be deciding how fast to run, but he'll never pretend the problem isn't there. Sometime within the next twenty millennia we humans will have to move *a.* population that already numbers forty-three billion. How? To where? When *should* we start thinking about this? When the glow of the Core begins to shine through the dust clouds?

Maybe men are the cowards-at the core.

A Pail of Air
by Fritz Leiber

Pa had sent me out to get an extra pail of air. I'd just about scooped it full and most of the warmth had leaked from my fingers when I saw the thing.

You know, at first I thought it was a young lady. Yes, a beautiful young lady's face all glowing in the dark and looking at me from the fifth floor of the opposite apartment, which hereabouts is the floor just above the white blanket of frozen air. I'd never seen a live young lady before, except in the old magazines-Sis is just a kid and Ma is pretty sick and miserable-and it gave me such a start that I dropped the pail. Who wouldn't, knowing everyone on Earth was dead except Pa and Ma and Sis and you?

Even at that, I don't suppose I should have been surprised. We all see things now and then. Ma has some pretty bad ones, to judge from the way she bugs her eyes at nothing and just screams and screams and huddles back back against the blankets hanging around the Nest. Pa says it is natural we should react like that sometimes.

When I'd recovered the pail and could look again at the opposite apartment, I got an idea of what Ma might be feeling at those times, for I saw it wasn't a young lady at all but simply a light-a tiny light that moved stealthily from window to window, just as if one of the cruel little stars had come down out of the airless sky to investigate why the Earth had gone away from the Sun, and maybe to hunt down something to torment or terrify, now that the Earth didn't have the Sun's protection.

I tell you, the thought of it gave me the creeps, I just stood there shaking, and almost froze my feet and did frost my helmet so solid on the inside that I couldn't have seen the light even if it had come out of one of the windows to get me. Then I had the wit to go back inside.

Pretty soon I was feeling my familiar way through the thirty or so blankets and rugs Pa has got hung around to slow down the escape of air from the Nest, and I wasn't quite so scared. I began to hear the tick-ticking of the clocks in the Nest and knew I was getting back into air, because there's no sound outside in the vacuum, of course. But my mind was still crawly and uneasy as I pushed through the last blankets-Pa's got them faced with aluminum foil to hold in the heat-and came into the Nest.

Let me tell you about the Nest. It's low and snug, just room for the four of us and our things. The floor is covered with thick woolly rugs. Three of the sides are blankets, and the blankets roofing it touch Pa's

head. He tells me it's inside a much bigger room, but I've never seen the real walls or ceiling.

Against one of the blanket-walls is a big set of shelves, with tools and books and other stuff, and on top of it a whole row of clocks. Pa's very fussy about keeping them wound. He says we must never forget time, and without a sun or moon, that would be easy to do.

The fourth wall has blankets all over except around the fireplace, in which there is a fire that must never go out. It keeps us from freezing and does a lot more besides. One of us must always watch it. Some of the clocks are alarm and we can use them to remind us. In the early days there was only Ma to take turns with Pa-I think of that when she gets difficult-but now there's me to help, and Sis too.

It's Pa who is the chief guardian of the fire, though. I always think of him that way: a tall man sitting cross-legged, frowning anxiously at the fire, his lined face golden in its light, and every so often carefully placing on it a piece of coal from the big heap beside it. Pa tells me there used to be guardians of the fire sometimes in the very old days-vestal virgins, he calls them-although there was unfrozen air all around then and you didn't really need one,

He was sitting just that way now, though he got up quick to take the pail from me and bawl me out for loitering-he'd spotted my frozen helmet right off. That roused Ma and she joined in picking on me. She's always trying to get the load off her feelings, Pa explains. He shut her up pretty fast. Sis let off a couple of silly squeals too.

Yet it's that glimmery white stuff in the pail that keeps us alive. It slowly melts and vanishes and refreshes the Nest and feeds the fire. The blankets keep it from escaping too fast. Pa'd like to seal the whole place, but he can't-building's too earthquake-twisted, and besides he has to leave the chimney open for smoke,

Pa says air is tiny molecules that fly away like a flash if there isn't something to stop them. We have to watch not to let the air run low. Pa always keeps a big reserve supply of it ib buckets behind the first blankets, along with extra coal and cans of food and other things, such as pails of snow to melt for water. We have to go way down to the bottom floor for that stuff, which is a mean trip, and get it through a door to outside.

You see, when the Earth got cold, all the water in the air froze first and made a blanket ten feet thick or so everywhere, and then down on top of that dropped the crystals of frozen air, making another white blanket sixty or seventy feet thick maybe.

Of course, all the parts of the air didn't freeze and snow down at the same time.

First to drop out was the carbon dioxide-when you're shoveling for water, you have to make sure you don't go too high and get any of

that stuff mixed in, for it would put you to sleep, maybe for good, and make the fire go out. Next there's the nitrogen, which doesn't count one way or the other, though it's the biggest part of the blanket. On top of that and easy to get at, which is lucky for us, there's the oxygen that keeps us alive. Pa says we live better than kings ever did, breathing pure oxygen, but we're used to it and don't notice. Finally, at the very top, there's a slick of liquid helium, which is funny stuff. All of these gases in neat separate layers. Like a pussy caffay, Pa laughingly says, whatever that is.

I was busting to tell them all about what I'd seen, and so as soon as I'd ducked out of my helmet and while I was still climbing out of my suit, I cut loose. Right away Ma got nervous and began making eyes at the entry-slit in the blankets and wringing her hands together-the hand where she'd lost three fingers from frostbite inside the good one, as usual. I could tell that Pa was annoyed at me scaring her and wanted to explain it all away quickly, yet could see I wasn't fooling.

"And you watched this light for some time, son?" he asked when I finished.

I hadn't said anything about first thinking it was a young lady's face. Somehow that part embarrassed me.

"Long enough for it to pass five windows and go to the next floor."

"And it didn't look like stray electricity or crawling liquid or starlight focused by a growing crystal, or anything like that?"

He wasn't just making up those ideas. Odd things happen in a world that's about as cold as can be, and just when you think matter would be frozen dead, it takes on a strange new life. A slimy stuff comes crawling toward the Nest, just like an animal snuffing for heat-that's the liquid helium. And once, when I was little, a bolt of lightning-not even Pa could figure where it came from-hit the nearby steeple and crawled up and down it for weeks, until the glow finally died.

"Not like anything I ever saw," I told him.

He stood for a moment frowning. Then, "I'll go out with you, and you show it to me," he said.

Ma raised a howl at the idea of being left alone, and Sis Joined in, too, but Pa quieted them. We started climbing into our outside clothes-mine had been warming by the fire. Pa made them. They have plastic headpieces that were once big double-duty transparent food cans, but they keep heat and air in and can replace the air for a little while, long enough for our trips for water and coal and food and so on.

Ma started moaning again, "I've always known there was something outside there, waiting to get us. I've felt it for years-something that's part of the cold and hates all warmth and wants to

destroy the Nest. It's been watching us all this time, and now it's coming after us. It'll get you and then come for me. Don't go, Harry!"

Pa had everything on but his helmet. He knelt by the fireplace and reached in and shook the long metal rod that goes up the chimney and knocks off the ice that keeps trying to clog it. Once a week he goes up on the roof to check if it's working all right. That's our worst trip and Pa won't let me make it alone.

"Sis," Pa said quietly, "come watch the fire. Keep an eye on the air, too. If it gets low or doesn't seem to be boiling fast enough, fetch another bucket from behind the blanket. But mind your hands. Use the cloth to pick up the bucket."

Sis quit helping Ma be frightened and came over and did as she was told. Ma quieted down pretty suddenly, though her eyes were still kind of wild as she watched Pa fix on his helmet tight and pick up a pail and the two of us go out.

Pa led the way and I took hold of his belt. It's a funny thing, but when Pa's along I always want to hold on to him. Habit, I guess, and then there's no denying that this time I was a bit scared.

You see, it's this way. We know that everything is dead out there. Pa heard the last radio voices fade away years ago, and had seen some of the last folks die who weren't as lucky or well-protected as us. So we knew that if there was something groping around out there, it couldn't be anything human or friendly.

Besides that, there's a feeling that comes with it always being night, *cold* night. Pa says there used to be some of that feeling even in the old days, but then every morning the Sun would come and chase it away. I have to take his word for that, not ever remembering the Sun as being anything more than a star. You see, I hadn't been born when the dark star snatched us away from the Sun, and by now it's dragged us out beyond the orbit of the planet Pluto, Pa says, and taking us farther out all the time.

I found myself wondering whether there mightn't be something on the dark star that wanted us, and if that was why it had captured the Earth. Just then we came to the end of the corridor and I followed Pa out on the balcony.

I don't know what the city looked like in the old days, but now it's beautiful. The starlight lets you see it pretty well- there's quite a bit of light in those steady points speckling the blackness above. (Pa says the stars used to twinkle once, but that was because there was air.) We are on a hill and the shimmery plain drops away from us and then flattens out, cut up into neat squares by the troughs that used to be streets. I sometimes make my mashed potatoes look like it, before I pour on the gravy.

Some taller buildings push up out of the feathery plain, topped by

rounded caps of air crystals, like the fur hood Ma wears, only whiter. On these buildings you can see the darker squares of windows, underlined by white dashes of air crystals. Some of them are on a slant, for many of the buildings are pretty badly twisted by the quakes and all the rest that happened when the dark star captured the Earth.

Here and there a few icicles hang, water icicles from the first days of the cold, other icicles of frozen air that melted on the roofs and dripped and froze again. Sometimes one of those icicles will catch the light of a star and send it to you so brightly you think the star has swooped into the city. That was one of the things Pa had been thinking of when I told him about the light, but I had thought of it myself first and known it wasn't so.

He touched his helmet to mine so we could talk easier and he asked me to point out the windows to him. But there wasn't any light moving around inside them now, or anywhere else. To my surprise, Pa didn't bawl me out and tell me I'd been seeing things. He looked all around quite a while after filling his pail, and just as we were going inside he whipped around without warning, as if to take some peeping thing off guard.

I could feel it, too. The old peace was gone. There was something lurking out there, watching, waiting, getting ready.

Inside, he said to me, touching helmets, "If you see something like that again, son, don't tell the others. Your Ma's sort of nervous these days and we owe her all the feeling of safety we can give her. Once-it was when your sister was born-I was ready to give up and die, but your Mother kept me trying Another time she kept the fire going a whole week all by herself when I was sick. Nursed me and took care of the two of you, too.

"You know that game we sometimes play, sitting in a square in the Nest, tossing a ball around? Courage is like a ball, son. A person can hold it only so long, and then he's got to toss it to someone else. When it's tossed your way, you've got to catch it and hold it tight-and hope there'll be someone else to toss it to when you get tired of being brave."

His talking to me that way made me feel grown-up and good. But it didn't wipe away the thing outside from the back of my mind-or the fact that Pa took it seriously.

It's hard to hide your feelings about sach a thing. When we got back in the Nest and took off our outside clothes, Pa laughed about it and told them it was nothing and kidded me for having such an imagination, but his words fell flat. He didn't convince Ma and Sis any more than he did me. It looked for a minute like we were all fumbling the courage-ball. Something had to be done, and almost before I knew what I was going to say, I heard myself asking Pa to tell us about the

old days, and how it all happened.

He sometimes doesn't mind telling that story, and Sis and I sure like to listen to it, and he got my idea. So we were all settled around the fire in a wink, and Ma pushed up some cans to thaw for supper, and Pa began. Before he did, though, I noticed him casually get a hammer from the shelf and lay it down beside him.

It was the same old story as always-I think I could recite the main thread of it in my sleep-though Pa always puts in a new detail or two and keeps improving it in spots.

He told us how the Earth had been swinging around the Sun ever so steady and warm, and the people an it fixing to make money and wars and have a good time and get power and treat each other right or wrong, when without warning there comes charging out of space this dead star, this burned-out sun, and upsets everything.

You know, I find it hard to believe in the way those people felt, any more than I can believe in the swarming number of them. Imagine people getting ready for the horrible sort of war they were cooking up. Wanting it even, or at least wishing it were over so as to end their nervousness. As if all folks didn't have to hang together and pool every bit of warmth just to keep alive. And how can they have hoped to end danger, *any* more then we can hope to end the cold?

Sometimes I think Pa exaggerates and makes things out too black. He's cross with us once in a while and was probably cross with all those folks. Still some of the things I read in the old magazines sound pretty wild. He may be right.

The dark star, as Pa went on telling it, rushed in pretty fast and there wasn't much time to get ready. At the beginning they tried to keep it a secret from most people, but then the truth came out, what with the earthquakes and floods- imagine, oceans of *unfrozen* water!- and people seeing stars blotted out by something on a clear night. First off they thought it would hit the Sun, and then they thought it would hit the Earth. There was even the start of a rush to get to a place called China, because people thought the star would hit on the other side. But then they found it wasn't going to hit either side, but was going to come very close to the Earth.

Most of the other planets were on the other side of the Sun and didn't get involved. The Sun and the newcomer fought over the Earth for a little while-pulling it this way and that, like two dogs growling over a bone, Pa described it this time- and then the newcomer won and carried us off. The Sun got a consolation prize, though. At the last minute he managed to hold on to the Moon.

That was the time of the monster earthquakes and floods, twenty times worse than anything before. It was also the., time of the Big Jerk, as Pa calls it, when all Earth got yanked suddenly, just as Pa has

done to me once or twice, grabbing me by the collar to do it, when I've been sitting too far from the fire.

You see, the dark star was going through space faster than the Sun, and in the opposite direction, and it had to wrench the world considerably in order to take it away.

The Big Jerk didn't last long. It was over as soon as the Earth was settled down in its new orbit around the dark star. But it was pretty terrible while it lasted. Pa says that all sorts of cliffs and buildings toppled, oceans slopped over, swamps and sandy deserts gave great sliding surges that buried nearby lands. Earth was almost jerked out of its atmosphere blanket and the air got so thin in spots that people keeled over and fainted-though of course, at the same time they were getting knocked down by the Big Jerk and maybe their bones broke or skulls cracked.

We've often asked Pa how people acted during that time, whether they were scared or brave or crazy or stunned, or all four, but he's sort of leery of the subject, and he was again tonight. He says he was mostly too busy to notice.

You see, Pa and some scientist friends of his had figured out part of what was going to happen-they'd known we'd get captured and our air would freeze-and they'd been working like mad to fix up a place with airtight walls and doors, and insulation against the cold, and big supplies of food and fuel and water and bottled air. But the place got smashed in the last earthquakes and all Pa's friends were killed then and in the Big Jerk. So he had to start over and throw the

Nest together quick without any advantages, just using any stuff he could lay his hands on.

I guess he's telling pretty much the truth when he says he didn't have any time to keep an eye on how other folks behaved, either then or in the Big Freeze that followed- followed very quick, you know, both because the dark star was pulling us away very fast and because Earth's rotation had been slowed in the tug-of-war, so that the nights were ten old nights long.

Still, I've got an idea of some of the things that happened from the frozen folk Fve seen, a few of them in other rooms in our building, others clustered around the furnaces in the basements where we go for coal.

In one of the rooms, an old man sits stiff m a chair, with an arm and a leg in splints. In another, a man and woman are huddled together in a bed with heaps of covers over them. You can just see their heads peeking out, close together. And m another a beautiful young lady is sitting with a pile of wraps huddled around her, looking hopefully toward the door, as if waiting for someone who never came back with warmth and food. They're all still and stiff as statues, of

course, but lust like life.

Pa showed them to me once in quick winks of his flashlight, when he still had a fair supply of batteries aad could afford to waste a little light. They scared me pretty bad and made my heart pound, especially the young lady.

Now, with Pa telling his story for the umpteenth time to take our minds off another scare, I got to thinking of the frozen folk again. All of a sudden I got an idea that scared me worse than anything yet. You see, I'd just remembered the face I'd thought I'd seen in the window. I'd forgotten about that on account of trying to hide it from the others.

What, I asked myself, if the frozen folk were coming to life? What if they were like the liquid helium that got *a* new lease on life and started crawling toward the heat just when you thought its molecules ought to freeze solid forever? Or like the electricity that moves endlessly when it's just about as cold as that? What if the ever-growing cold, with the temperature creeping down the last few degrees to the last zero, had mysteriously wakened the frozen folk to life-not warmblooded life, but something icy and horrible?

That was a worse idea than the one about something coming down from the dark star to get us.

Or maybe, I thought, both ideas might be true. Something coming down from the dark star and making the frozen folk move, using them to do its work. That would fit with both things I'd seen-the beautiful young lady and the moving, starlike light.

The frozen folk with minds from the dark star behind their unwinkling eyes, creeping, crawling, snuffing their way, following the heat to the Nest.

I tell you, that thought gave me a very bad turn and I wanted very badly to tell the others my fears, but I remembered what Pa had said and clenched my teeth and didn't speak.

We were all sitting very still. Even the fire was burning silently. There was just the sound of Pa's voice and the clocks.

And then, from beyond the blankets, I thought I heard a tiny noise. My skin tightened all over me.

Pa was telling about the early years in the Nest and had come to the place where he philosophizes.

"So I asked myself then," he said, "what's the use of going on? What's the use of dragging it out for a few years? Why prolong a doomed existence of hard work and cold and loneliness? The human race is done. The Earth is done. Why not give up, I asked myself-and all of a sudden I got the answer."

Again I heard the noise, louder this time, a kind of uncertain shuffling tread, coming closer. I couldn't breathe.

"Life's always been a business of working hard and fighting the

cold," Pa was saying. "The Earth's always been a lonely place, millions of miles from the next planet. And no matter how long the human race might have lived, the end would have come some night. Those things don't matter. What matters is that life is good. It has a lovely texture, like some rich cloth or fur, or the petals of flowers-you've seen pictures of those, but I can't describe how they feel-or the fire's glow. It makes everything else worthwhile. And that's as true for the last man as the first."

And still the steps kept shuffling closer. It seemed to me that the inmost blanket trembled and bulged a little. Just as if they were burned into my imagination, I kept seeing those peering, frozen eyes.

"So right then and there," Pa went on, and now I could tell that he heard the steps, too, and was talking loud so we maybe wouldn't hear them, "right then and there I told myself that I was going on as if we had all eternity ahead of us. I'd have children and teach them all I could. I'd get them to read books. I'd plan for the future, try to enlarge and seal the Nest.

I'd do what I could to keep everything beautiful and growing. I'd keep alive my feeling of wonder even at the cold and the dark and the distant stars."

But then the blanket actually did move and lift. And there was a bright light somewhere behind it. Pa's voice stopped and his eyes turned to the widening slit and his hand went out until it touched and gripped the handle of the hammer beside him.

In through the blanket stepped the beautiful young lady.

She stood there looking at us the strangest way, and she carried something bright and unwinking in her hand. And two other faces peered over her shoulders-men's faces, white and staring.

Well, my heart couldn't have been stopped for more than four or five beats before I realized she was wearing a suit and helmet like Pa's homemade ones, only fancier, and that the men were, too-and that the frozen folk certainly wouldn't be wearing those. Also, I noticed that the bright thing in her hand was just a kind of flashlight.

The silence kept on while I swallowed hard a couple of times, and after that there was all sorts of jabbering and commotion.

They were simply people, you see. We hadn't been the only ones to survive; we'd just thought so, for natural enough reasons. These three people had survived, and quite a few others with them. And when we found out *how* they'd survived, Pa let out the biggest whoop of joy.

They were from Los Alamos and they were getting their heat and power from atomic energy. Just using the uranium and plutonium intended for bombs, they had enough to go on for thousands of years. They had a regular little airtight city, with airlocks and all. They even

generated electric light and grew plants and animals by it. (At this Pa let out a second whoop, waking Ma from her faint.)

But if we were flabbergasted at them, they were double-flabbergasted at us.

One of the men kept saying, "But it's impossible, I tell you. You can't maintain an air supply without hermetic seal-ing. It's simply impossible."

That was after he had got his helmet off and was using our air. Meanwhile, the young lady kept looking around at us as if we were saints, and telling us we'd done something amazing, and suddenly she broke down and cried.

They'd been scouting around for survivors, but thev never expected to find any in a place like this. They had rocket ships at Los Alamos and plenty of chemical fuel. As for liquid oxygen, all you had to do was go out and shovel the air blanket at the top level. So after they'd got things going smoothly at Los Alamos, which had taken years, they'd decided to make some trips to likely places where there might be other survivors. No good trying long-distance radio signals, of course, since there was no atmosphere to carry them around the curve of the Earth.

Well, they'd found other colonies at Argonne and Brook-haven and way around the world at Harwell and Tanna Tuva. And now they'd been giving our city a look, not really expecting to find anything. But they had an instrument that noticed the faintest heat waves and it had told them there was something warm down here, so they'd landed to investigate. Of course we hadn't heard them land, since there was no air to carry the sound, and they'd had to investigate around quite a while before finding us. Their instruments had given them a wrong steer and they'd wasted some time in the building across the street.

By now, all five adults were talking like sixty. Pa was demonstrating to the men how he worked the fire and got rid of the ice in the chimney and all that. Ma had perked up wonderfully and was showing the young lady her cooking and sewing stuff, and even asking about how the women dressed at Los Alamos. The strangers marveled at everything and praised it to the skies. I could tell from the way they wrinkled their noses that they found the Nest a bit smelly, but they never mentioned that at all and just asked bushels of questions.

In fact, there was so much talking and excitement that Pa forgot about things, and it wasn't until they were all getting groggy that he looked around and found the air had all boiled away in the pail. He got another bucket of air quick from behind the blankets. Of course that started them all laughing and jabbering again. The newcomers

even got a little drunk. They weren't used to so much oxygen.

Funny thing, though-I didn't do much talking at all and Sis hung on to Ma all the time and hid her face when anybody looked at her. I felt pretty uncomfortable and disturbed myself, even about the young lady. Glimpsing her outside there, I'd had all sorts of mushy thoughts, but now I was just embarrassed and scared of her, even though she tried to be nice as anything to me.

I sort of wished they'd all quit crowding the Nest and let us be alone and get our feelings straightened out.

And when the newcomers began to talk about our all going to Los Alamos, as if that were taken for granted, I could see that something of the same feeling struck Pa and Ma, too," Pa got very silent all of a sudden and Ma kept telling the young lady, "But I wouldn't know how to act there and I haven't any clothes."

The strangers were puzzled like anything at first, but then they got the idea. As Pa kept saying, "It just doesn't seem right to let this fire go out."

Well, the strangers are gone, but they're coming back. It hasn't been decided yet just what will happen. Maybe the Nest will be kept up as what one of the strangers called a "survival school." Or maybe we will join the pioneers who are going to try to establish a new colony at the uranium mines at Great Slave Lake or in the Congo.

Of course, now that the strangers are gone, I've been thinking a lot about Los Alamos and those other tremendous colonies. I have a hankering to see them for myself.

You ask me, Pa wants to see them, too. He's been getting pretty thoughtful, watching Ma and Sis perk up.

"It's different, now that we know others are alive," he explains to me. "Your mother doesn't feel so hopeless arty more. Neither do I, for that matter, not having to carry the whole responsibility for keeping the human race going, so to speak It scares a person."

I looked around at the blanket walls and the fire and the pails of air boiling away and Ma and Sis sleeping in the warmth and the flickering light.

"It's not going to be easy to leave the Nest," I said, wanting to cry, kind of. "It's so small and there's just the four of us. I get scared at the idea of big places and a lot of strangers."

He nodded and put another piece of coal on the fire. Then he looked at the little pile and grinned suddenly and put a couple of handfuls on, just as if it was one of our birthdays or Christmas.

"You'll quickly get over that feeling son," he said. "The trouble with the world was that it kept getting smaller and smaller, till it ended with just the Nest. Now it'll be good to have a real huge world again, the way it was in the beginning."

I guess he's right. You think the beautiful young lady will wait for me till I grow up? I'll be twenty in only ten years.

King of the Hill
by Chad Oliver

She floated there in the great nothing, still warm and soft and blue-green if you could eyeball her from a few thousand miles out, still kissed under blankets of clouds.

Mama Earth, Getting old now, tired, her blankets soiled with her own secretions, her body bruised and torn by a billion forgotten passions.

Like many a mother before her, she had given birth to a monster. Me was not old, not as planets measure time, and there had been other children. But he was old enough. He had taken over.

His name?

You know it: there are no surprises left. Man. Big Daddy of the primates. The ape that walks like a chicken. Homo sap. Ah, the tool-maker, flapper of tongues, builder of fires, sex fiend, dreamer, destroyer, creator of garbage…

You know me, Al.

Mirror, mirror, on the wall-

Ant is the name, anthill is the game.

There were many men, too many men. They have names.

Try this one on for size: Sam Gregg. Don't like it? Rings no bells? Not elegant enough? Wrong ethnic affiliation?

Few among the manswarm, if any, cared for Sam Gregg. One or two, possibly, gave a damn about his name. A billion or so knew his name.

Mostly, they hated his guts-and envied him.

He was there, Sam Gregg, big as life and twice as ugly.

He stuck out.

A rock in the sandpile.

They were after him again.

Sam Gregg felt the pressure. There had been *a* time when he had thrived on it; the adrenaline had flowed and the juices bubbled. Sure, and there had been a time when dinosaurs had walked the earth. Sam had been born in the year that men had first walked on the moon. (It had tickled him, when he was old enough to savor it. A man with the unlikely name of Armstrong, no less. And his faithful sidekick, Buzz. And good old Mike holding the fort, Jesus.) That made him nearly a century old. His doctors were good, the best. It was no miracle to live a hundred years, not these days. But he wasn't a kid anymore, as he demonstrated occasionally with Lois.

The attacks were not particularly subtle, but they were civilized.

That meant that nobody called you a son of a bitch to your face, and the assassins carried statistics and plati-tudes instead of knives and strangling cords.

Item. A bill had been introduced in Washington by good old Senator Raleigh, millionaire defender of the poor. Stripped of its stumbling oratorical flourishes, it argued that undersea development was now routine and therefore that there should be no tax dodges for phony risk capital investment. That little arrow was aimed straight at one of Sam's companies- at several of them, in fact, although the somewhat dim-witted Raleigh probably did not know that. Sam.could beat the bill, but it would cost him money. That annoyed him. He had an expensive hobby.

Item. Sam retained a covey of bright boys whose only job it was to keep his name out of the communications media. They weren't entirely successful; your name is not known to a billion people on a word-of-mouth basis. Still, he had not been subjected to one of those full-scale, no-holds-barred, dynamic, daring personal close-ups for nearly a year now. One was coming up, on Worldwide. The mystery man-revealed! The richest man in the world-exposed! The hermit-trapped by fearless reporters! Sam was not amused. The earth was sick, blotched by hungry and desperate people from pole to shining pole. There had never been an uglier joke than pinning man's future on birth control. A sick world needs a target for its anger. Sam's only hope was to be inconspicuous. He had failed in that, and it would get him in the end. Still, he only needed a little more time...

Item. The U.N. delegate from the Arctic Republic had charged that Arctic citizens of Eskimo descent were being passed over for high administrative positions in franchises licensed to operate in the Republic. "We must not and will not allow," he said, "the well-known technical abilities of oar people to serve as a pretext for modern-day colonial exploitation." The accusation was so much rancid blubber, of course; Sam happened to like Eskimos as well as he liked anybody, and in any event he was always very careful about such things. No matter. There would be a hearing, facts would have to be tortured by the computers, stories would have to be planted, money would be spent. The root of all evil pro-duced a popular shrub.

There were other items, most of them routine. Sam did not deal with them himself, and had not done so for fifty years. ("Mr. Gregg never does anything *personally,"* as one aide had put it in a famous interview.) Sam routed the problems down to subordinates; that was what they were for. Nevertheless, he kept in touch. A ruler who does not know what is going on in his empire can expect the early arrival of the goon squad that escorts him into oblivion. There were the usual appeals to support Worthy Causes, to contribute to Charity, to help

out Old Friends. Sam denied them all without a qualm and without doing anything; his lieutenants had their orders. A penny saved…

Sam was not really worried; at worst he was harassed, which was the chronic complaint of executives. *They* were not on to him yet. There was no slightest hint of a leak where it counted. If *that* one ever hit the air cleaner there would be a stink they could smell in the moon labs.

Still, he felt the pressure. He was human, at least in his own estimation. There was a classic cure for pressure, known to students of language as getting away from it all. It was a cure that was no longer possible for the vast majority of once-human beings, for the simple reason that there was nowhere to go.

("To what do you attribute your long and successful life, Mr. Gregg?'" "Well, I pension off my wives so that I always have a young one, and I see to it that she talks very little. I drink a lot of good booze, but I never get drunk. I don't eat meat. I count my money when I get depressed. If I feel tense, I knock about the estate until I feel better. I try to break at least three laws every day. I owe it all to being a completely evil man.")

Sam Gregg could take the cure, and he did.

He did not have to leave his own land, of course. Sam *never* left his Estate. (Well, hardly ever.) He took the private tube down from his suite in the tower and stepped outside. That was the way he thought of it, but it was not precisely true. There was a miniature life-support; pod that arched over a thousand acres of his property. It was a high price to pay for clean air, but it was the only way. Sam needed it and so did the animals.

There were two laws that he broke every day. In a world so strangled by countless tons of human meat that land per capita was measured in square feet, Sam Gregg owned more than a thousand *acres.* Moreover, he did nothing useful with that supremely illegal land. He kept *animals* on it. Even dogs and cats had been outlawed for a quarter of a century, and what passed for meat was grown in factory vats. When people are starving, wasting food on pets is a criminal act, (Who says so? Why, people do.) Most of the zoos were gone now, and parks and forests and meadows were things of the past.

Sam took a deep breath, drinking in the air. It was just right, and not completely artificial either. Cool it was, and fragrant with living smells: trees and wet-green grass and water that glided over rocks and earth that was soft and thick.

This was all that was left, a fact that Sam fully appreciated.

This was the world as it once had been, lost now and forever.

Man had come, mighty man. Oh, he was smart, he was clever. He had turned the seas into cesspools, the air into sludge, the mountains

into shrieking cities. Someone had once said that one chimpanzee was no chimpanzee. It was true; they were social animals. But how about ten thousand chimpanzees caged in a square mile? That was no chimpanzee also-that was crazy meat on a fanny farm.

Oh, man was clever. He raped a world until he could not live with it, and then he screamed for help.

Don't call me, AI. Ill call you.

Sam shook his head. It was no good thinking about it. He could not ride to the rescue, not with all of his billions. He had no great admiration for his fellow men, and it would not matter if he had.

There was only one thing left to try.

Sam tried to close his mind to it. He had to stay alive a little longer. He had to relax, value, enjoy-

He walked along an unpaved trail, very likely the last one left on the planet. He breathed clean air, he felt the warmth of the sun glowing through the pod, he absorbed…

There were squirrels chattering in the trees, rabbits busy at rabbit-business in the brush. He saw a deer, a beautiful buck with moss on his horns; the buck ran when he spotted Sam. He knew who the enemy was. He saw a thin raccoon, a female that stared at him from behind her bandit's mask. She had three young ones with her and they were bold, but Mama herded them up into an oak and out of danger. He could see the three little masks peering down at him from the branches.

The trail wound along a stream of cold, fast water. Sam watched the dark olive shadows lurking in the pools. Trout, of course. Sam drew the line at bass and carp,

He came out of the trees and into a field of tall grass. There were yellow flowers and insects buzzed in the air. He sensed the closeness of shapes and forms, but he could not see them in the breeze-swept grass. There was life here, and death, and life again.

But not for long.

He turned and retraced his steps. He felt a little better.

The raccoons were still in the oak.

Sam went back inside. Back to the salt mine.

He worked hard until dinner.

"What was the exact hour?" Lois asked him, absently stroking one of her remarkable legs. (She had two of them.)

"I don't remember," Sam said. "I was very young."

"Come on, Sam. I'm not stupid. You *can't* tell me that with all the resources of your mysterious enterprises you can't find out the exact time."

"I am telling you. I don't know." Sam looked at her, which was always pleasant in a tense sort of way. Lois was sensual but there was

no softness in her. She had a lacquered surface stretched like a drumhead over taut springs. She always looked perfect, but even her casual clothes were somehow formal. She never forgot herself. She was a challenge, which was fine once in a while. Sam was old enough to decline most challenges without dishonor.

Lois did not have to remind Sam that she had a brain. Sam never made *that* mistake. Her little reference to "mysterious enterprises" was an effective threat. At thirty, she had climbed the highest pinnacle on her scale of values: she was the wife of the richest man in the world. She didn't want a settlement. She wanted it all. Sam had no children.

Bright, yes. Cunning, yes. Skilled, certainly. Faithful with her body, yes-Lois took no needless risks. But that fine-boned head enclosed a brain that was all output; not much of significance ever went *in.* The hard violet eyes looked out from jelly that had been molded in Neolithic times.

She would have made a dandy witch.

She spent her days puttering with expensive clothing and obscure cosmetics. She had a library of real books, thus proving her intellectual capacity. They were all about reincarnation and astrology. She considered herself something of an expert with horoscopes. A pun had frequently occurred to Sam in this connection, but he had refrained. He was not a cruel man.

"I want to do it for you," she «aid. "You have decisions to make. It would help. Really, Sam."

She was quite sincere, like all fanatics. It was a gift she could give him, and that was important to her. It was an ancient problem for women like Lois: what do you give to a man who has everything? The gag presents get pretty thin very quickly, and Sam was not a man who was easily convulsed.

He sipped his drink, enjoying it. He always drank Scotch; the labs could create nothing better. "Well," he said, "I haven't a clue about the minute of my birth. I'd just as soon forget my birthday."

Lois was patient. "It would be so simple to find out."

"But I don't give a damn."

"I give *a* damn. What about me? It's a small thing. I know the day, of course. But if the moons of Saturn were in the right position…"

Sam raised his eyebrows and took a large swallow of Scotch before he answered. "They are always in the right position," he said carefully, 'That's the way moons are."

"Oh, Sam." She did not cry; she had learned some things,

Sam Gregg stood up to refill his glass. He did not like to have obtrusive robots around the house. Self-reliance and all that.

He was not unaware of himself. He did not look his age. He was a tall, angular man. There was still strength in him. His hair was gray,

not white. His craggy face was lined but there was no flab on him. His brown eyes were sharp, like dirty ice,

Sam sometimes thought of himself as a vampire in one of the still-popular epics. ("Ah, my dear, velcome to Castle Mor-dar. A moment while I adjust my dentures.") Splendid-looking chap, distinguished even. But then, suddinkly, at the worst possible moment, he dissolves into a puff of primeval dust…

"Let's go beddy-bye," Sam said, draining his glass. "Maybe I can remember."

"I'll help you," Lois said, reporting for duty.

"You'll have to," Sam agreed.

Sam worked very hard the next few weeks. He even found time to check the hour and the minute of his birth. He was being very careful indeed, trying to think of everything.

Lois was delighted. She retreated to her mystic stewpot$_t$ consulted her illustrated charts, talked it over with several dead Indians, and informed Sam that he was thinking about a long, long journey.

Sam didn't explode into laughter.

His work was difficult because so much of it involved waiting. There were many programs to consider, all of them set in motion years ago. They had to mesh perfectly. They all depended on the work of other men. And they all had to be masked.

It wasn't easy. How, for instance, do you hide a couple of spaceships? Particularly when they keep taking off and landing with all the stealth of trumpeting elephants?

("Spaceship? I don't see any spaceship. Do you see a spaceship?")

Answer: You don't hide them. You account for them. For all practical purposes, Sam owned the space station that orbited the Earth. He controlled it through a mosaic of interlocking companies, domestic and foreign. It was only natural for him to operate a few shuttle ships. A man has a right to keep his finger in his own pie.

Owned the space station, Daddy?

Yes, Junior. Listen, my son, and you shall hear…

The great space dream had been a bust. A colossal fizzle. A thumping anticlimax.

The trails blazed by the space pioneers led-quite literally-Nowhere.

Fortunately or otherwise, Mighty Man could not create the solar system in his own image. The solar system was one hell of a place, and not just on Pluto. There were no conveniently verdant worlds. There were just rocks and craters, heat and cold, lifeless dust and frozen chemicals.

There were other suns, other planets. Big deal. There were no handy space warps, no faster-than-light drives. Unmanned survey

ships took a very long time to report, and their news produced no dancing in the streets: rocks, craters, desolation. Who would spend a lifetime to visit Nothing?

Would you? (Naw, I'd rather go see Grandma.)

Scientific bases had been established on Luna, and they survived. They survived with enormous expense, with highly trained personnel, with iron discipline. Even the scientific teams had to be replaced at short intervals.

Radiation, you know. Puts funny kinks in the old chromosomes.

The Mars Colony of half a century ago, widely advertised as a solution to the population crisis, was a solution only in the grim sense of a Final Solution. Even with the life-support pods-Sam had lost a fortune on the early models, but he had learned a few things-it was no go. Five thousand human beings had gone to Mars to start the New Life. (A drop in the bucket, to be sure. But there was much talk about Beginnings, and Heroic Ancestors, and First Steps.) A few of them had gotten back. Most had died or gone mad or both. Some of them were still there, although this was not generally known. They -were no longer human.

The problem was that it was perfectly possible to set up a scientific base on Mars, or even a military base if there had been any need for one. But soldiers on Mars are a joke, and appropriations committees had long since stopped playing the old game: *Can You Top This?* Scientists could do little on Mars that they could not do on Luna. And people-plain, ordinary people, the kind that swarmed the Earth and scratched for a living, the kind that had to go-could not exist on Mars.

And so?

And so, kiddies, what was left of the space program was taken over by what was referred to as the Private Sector of the Economy. Got your decoder badges ready? It works out to S-a-m G-r-e-g-g. Governments could not continue to pour billions into space when there was no *earthly* reason for doing so. But with existing hardware and accumulated expertise it was not prohibitively expensive for Sam Gregg to keep a few things going. There was the matter of motive, of course. Sam Gregg had one, and he made money besides.

There were other projects to conceal, but they were easier than spaceships. Genetics research? Well, cancer was still a killer and everyone wanted to live forever. Such work was downright humanitarian, and therefore admirable. Ecological studies? The whole wretched planet was fouled by its own ecology-a solution *had* to be found. (There was no solution at this late date, but so what? It was a Good Thing. Everyone said so.) Computers, robots, cybernetics? Certainly *they* were beyond reproach. Hadn't they ushered in the

Golden Age? Well, hadn't they?

Sam Gregg had his faults-ask anyone-but wishful thinking was not among them. He *knew* that he could succeed if he just had time. He could succeed if they didn't get him first. He could succeed because he had the resources and because the problem was essentially one of technology. No matter how complex they are, technological problems can be solved unless they involve flat impossibilities. You can build a suspension bridge, send a man to Mars or wherever, construct cities beneath the sea.

There are other problems, human problems. How do you build a bridge between people? How do you, send a better man to Mars? How do you construct an anthill city that is not a bughouse? Money will not solve those problems. Rhetoric will not solve them. Technology will not solve them.

Therefore, Sam did not fool with them. He used them for protective coloration, but he did not kid himself.

He stuck to the art of the possible.

Oh yes, he had a dream.

There was justice in it, of a sort. But human beings care nothing for justice. They look out for Number One.

Number One?

Sam permitted himself a brief, cold smile.

They would tear him apart if they knew, all those billions of Number Ones…

A day came when all the bits and pieces fell into place. The data came back, coded across the empty hundreds of millions of miles. The columns added up. The light turned green.

Sam was exultant, in a quiet sort of way. He had expected it to work, of course. He had checked it all out countless times. But that was theory, and Sam was a skeptic about theories.

This was fact.

It was ready. Not perfect, no-but that too had been anticipated.

Ain't science wunnerful?

He could not stay inside, not when he was this close. He had to get outside, taste what was left of freedom. At times like these, it was not enough to know that it was there. He had to *see* it.

He walked on the Estate.

Lois joined him, which was a pain in the clavicle but Sam did not allow her presence to destroy his mood. Lois had on one of her cunning Outdoor Suits. She always professed to adore what she called Nature, but she walked as though every blade of grass were poison ivy.

(Poison ivy had been extinct for decades, Lois would soon follow suit.)

"It's so peaceful," Lois said. She usually said that here.

Rather to his own surprise, Sam answered her. He wanted to talk to somebody, to celebrate. Failing that, he talked to Lois. "No," he said. "Not really. It only seems peaceful because we are observers, not part of it. And it *is* controlled, to some extent."

Lois looked at him sharply. It had been one of his longer speeches.

"See that cedar?" Sam pointed to it, knowing that she did not know a cedar from a cottonwood. "Tough little tree. It'll grow in poor soil, it doesn't take much water. See how the roots come up near the surface? It's brittle, though. Won't last long. That oak is crowding it, and it's got a century or two to play with. See that little willow-there, the droopy one? It needs too much water and the drainage is wrong. It'll never make it. Am I boring you?"

"No," Lois said truthfully. She was too amazed to be bored.

"See the bunny rabbit?" Sam's voice lapsed into parody. "See bunny run? He'd better run. Lots of things eat bunny rabbits. Hawks, bobcats, wolves. Snakes eat little bunnies-"

"Oh, Sam."

As if to prove his point, a beagle hound stuck his wet nose out of the brush. His white-tipped tail wagged tentatively. His liquid eyes were pools of adoration, (Beagles were originally bred as hunters. Remember?)

Sam turned his back on the dog, "Man's best friend. The supreme opportunist. He figured the odds twenty thousand years ago and threw in with us. K-9, Secret Agent. Con. Fink. Surplus now. Dear old pal."

"I don't understand you sometimes," Lois said with rare perception.

Idon't understand them, either, Sam thought. *Animals, not women. Little Forest Friends Nobody understands them. We were too busy. There wasn't even a decent field study of the chimpanzee until around 1930. Seventy years later there were no chimpanzees. We didn't bother with the animals that were not like men; who cared? We learned exactly nothing about kudus and bears, coons and possums, badgers and buffalo. Too late now. They are gone or going, and so is their world.*

Sam Gregg was not a sentimental man. He was a realist. Still, the facts bothered him. It was hard not to know. He would never know, and that was that. There was no way.

They walked along the trail together. (Arm in arm, lovely couple, backbone of empire.) Sam was a little nervous. It had been a long fight and-as they used to say-victory was at hand.

He felt a little like God and a lot like an old man.

From the branches of a gnarled oak, a masked mother and three small bandits watched them pass.

There were ancient raccoon thoughts in the air.

You are ready.

So do it. Don't wobble.

Sam did it.

Sound dramatic?

It was (in the very long run) and it wasn't (here and now). An extremely well-balanced, insulated, innocuous conveyor left the main lab and hissed gently to the spaceport. A large gray metallic box was loaded into a shuttle ship and locked into place. The box was ten feet square, and it was heavy. It could have been much smaller and lighter-about the size of a jigger glass-except for the refrigeration units, the electronic circuits, the separation cubicles, and the protective layers.

The shuttle lifted to the space station. Strictly routine.

The gray cube of metal was transferred very gingerly to a larger ship. She (that was surely the proper pronoun) was a special ship, a swimmer of deep space. She was crammed with expensive gear. Say, a billion dollars' worth. Maybe more.

She took off. She was completely automated, controlled by computers, powered by atomics.

There were no men on board.

The ship was never corning back.

Sam?

He stayed home.

There was nowhere for him to go.

Remember?

It is curious how a small gesture will offend some people.

There was no more capital punishment, unless living on earth was it, but good men and true were willing to make an exception in Sam's case.

"So you sunk twenty billion into it over a ten-year period," his chief lawyer said. He said it the same way he might have asked, "So you think you're a kumquat, eh?"

"Give or take a few million. Of course, some of the basic research goes back more than ten years. If you figure all that in, it might go to twenty-two billion. Maybe twenty-three."

"Never mind that." The lawyer groaned. He really did.

Lois was not happy and developed a case of severe frigidity. She was not only married to a man confronting bankruptcy, but she was also the wife of a Master Criminal. It does imperil one's social position.

(There was no way to keep it quiet, naturally, Sam had known that. Too many people were involved.)

They had a great time, the venom-spewers: senators and

editorialists, presidents and kings, cops and commissions, professors and assorted hotshots. All the Good People.

Sam had. to put it mildly, violated a public trust. (Translation: he hadn't spent his money on what *they* wanted.)

He was guilty of a crime against humanity. (Judge and jury, definer of crime? Humanity. All heart.)

It did not matter in the least that twenty billion dollars (or twenty-two, or twenty-three, or a hundred) could not have saved the earth. Earth was finished, smothered by her most illustrious spawn. It would take a few years yet, while she gasped for breath and filled the bedpan. But she was through.

Man had never cared overmuch for facts.

He believed what he wanted to believe.

("Things may be bad, but they are getting better. All we have to do is like be relevant, you know? Enforce the Law. Consult the swami Have a hearing. Salvation through architecture. When the going gets tough the tough get going. All problems have solutions.")

There was one other thing that made Sam's sin inexcusable.

You see, animals have no votes.

The defense?

It was clear, simple, correct, and beyond dispute. It was therefore doomed.

("We'll give him a fair trial, then hang him.")

Way down deep where convictions solidify, Big Man had expected to meet his counterpart on other worlds. ("Ah, Earthling, you surprise I speak your language so good.") He had failed. He had found only barren rocks at the end of the road.

From this, he had drawn a characteristically modest conclusion.

Man, he decided, was alone in the accessible universe.

This was a slight error. There were primitive men who would not have made it, but there were no more primitive men.

The plain truth was that it was *Earth* that was unique and alone. Earth had produced life. Not just self-styled Number One, not just Superprimate. No. He was a late arrival, the final guest.

("All these goodies just for *me!")*

Alone? Man?

Well, not quite.

There were a million different *species* of insects. (Get the spray-gun, Henry.) Twenty thousand kinds of fish. (I got one, I got one!) Nine thousand types of birds. (You can still see a stuffed owl in a museum.) Fifteen thousand species of mammals. (You take this arrow, see, and fit the string into the notch…)

Alone? Sure, except for the kangaroos and bandicoots, shrews and skunks, bats and elephants, armadillos and rabbits, pigs and foxes,

raccoons and whales, beavers and lions, moose and mice, oryx and otter and opossum-

Oh well, *them.*

Yes.

They too had come from the earth. Incredible, each of them. Important? Only if you happened to think that the only known life in the universe was important.

Man didn't think so. Not him.

Not the old perfected end-product of evolution.

He didn't kill them all, of course. He hadn't been around that long. The dinosaurs had managed to become extinct without his help. There were others.

He did pretty well, though. He could be efficient, give him that.

He started early. Remember the ground sloth, the mam-moth, the mastodon? You don't? Odd.

He kept at it. He was remarkably objective about it, really. He murdered his own kin as readily as the others. The orang had gone down the tube when Sam was a boy, the gorilla and the chimp and the gibbon a little later.

Sorry about that, gang.

In time, he got them all. It was better than in the old days. He took no risks, dug no traps, fired no guns. He simply crowded them out. When there were billions upon billions of naked apes stacked in layers over the earth, there was no room for anything else.

Goodbye, Old Paint,

So long. Rover.

Farewell, Kitty-cat,

Nothing personal, you understand.

All in the name of humanity. What higher motive can there be?

This is a defense?

What in hell did Sam do?

In hell, he did this:

Sam Gregg decided that mankind could not be saved. Not *should* not (although Sam, it must be confessed, did not get all choked up at the thought of human flesh) but *could* not, It was too late, too late when Sam was born. Man had poisoned his world and there were no fresh Earths,

Man could not survive on other planets, not without drastic genetic modifications.

And man would not change, not voluntarily.

After all, he was perfect, wasn't he?

That left the animals. Earth's other children, the ones pushed aside. The dumb ones. The losers. The powerless.

You might call it the art of the possible.

Did they matter? If they were the only life in the universe? Who knew? Who decided?

Well, there was Sam, A nut, probably. Still, he could play God as well as the next man. He had the money.

Pick a world, then. Not Mars. Too close, and there were still those ex-human beings running around there. Don't want to interfere with *them.*

Sam chose Titan, the sixth moon of Saturn. It was plenty big enough; it had a diameter of 3650 miles. It had an atmosphere of sorts, mostly methane. He liked the name.

Besides, think of the view.

It was beyond human engineering skill to convert Titan into a replica of Mother Earth in her better days. Tough, but that's the way the spheroid rebounds.

However, with atomic power generated on Titan a great deal could be done. It was, in fact, titanic.

The life-support pods-enormous energy shields-made it possible to create pockets in which breathable air could be born. It just required heat and water and chemical triggers and doctored plants-

A few little things.

A bit of the old technological razzle-dazzle.

Men could not live there, even under the pods. Neither could the animals that had once roamed the earth.

Sam's animals were different, though. He cut them to fit. That was one thing about genetics. When you knew enough about it, you couldmake alterations. Not many, perhaps. But enough.

Getting the picture?

Sam did not line the critters up two by two and load them into the Ark. (Noah, indeed.) He could not save them all. Some were totally gone, some were too delicate, some were outside the range of Sam's compassion. (Who needs a million kinds of bugs?) He did what he could, within the time he had.

He sent sex cells, sperm and ova, one hundred sets for each species. (Was that what was in the box? Yes, Junior.) Animals learn some things, some more than others, but most of what they do is born into them. Instinct, if you like. There was a staggering amount of information in that little box.

The problem was to get it out.

Parents have their uses, sometimes.

But robots will do, if you build them right. You can build a long, long program into a computer. You can stockpile food for a few years.

So-get the joint ready. Then bring down the ship and reseal the pods. Activate-the mechanisms. Fertilize the eggs Subdivide the zygotes. Put out the incubators. Pill the pens.

And turn 'em loose.

Look out, world.

That was what Sam Gregg did with his money.

They didn't actually execute him, the good people of Earth. There was not even a formal trial. They just confiscated what was left of his money and put him away in a Nice Place with the other crazies.

It would be pleasant to report that Sam died happy and that his dust was peaceful in its urn. In fact, Sam was sorry to go and he was even a little bitter.

If he could have known somehow, he might-or might not-have been more pleased.

Millions of lonely miles from the dead earth, she floated there in the great nothing. Beneath the shimmering pods that would last for thousands of years, a part of her was cool rather than cold, softer than the naked rocks, flashed with green.

Saturn hovered near the horizon, white and frozen and moonlike.

The ancient lifeways acted out their tiny dramas, strange under an alien sky. They had changed little, most of them.

There was one exception,

It might have been the radiation.

Then again, the raccoon had always been a clever animal. He had adroit hands, and he could use them. He had alert eyes, a quick intelligence. He could learn things, and on occasion he could pass on what he knew.

Within ten generations, he had fashioned a crude chopping tool out of flaked stone.

Within twenty, he had built a fire.

That beat man's record by a considerable margin, and the point was not lost on those who watched.

A short time later, the dog showed up, out in the shadows cast by the firelight. He whined. He thumped his shaggy tail. He oozed friendship.

The raccoons ignored him for a few nights. They huddled together, dimply proud of what they had done. They thought it over.

Eventually, one of the raccoons threw him a bloody bone, and the dog came in.

Don't like the ending?

A trifle stark?

Is there no way we can communicate with them from out of the past? Can't we say something, a few words, now that we are finished?

Ah, man. Ever the wishful thinker.

Still talking.

Sam had tried. He was human; he made the gesture.

There was a small plaque still visible on the outside of the silent

ship that had brought them here. It was traditional in spaceflights, but Sam had done it anyhow.

It could not be read, of course.

It could not be deciphered, ever.

But it was there.

It said the only words that had seemed appropriate to Sam:

Good luck, old friends.

Part 4. Humanity Destroyed

Earth might maintain its physical structure reasonably intact and still become uninhabitable in a "Catastrophe of the Fourth Class."

Of course, the least stable portion of the Earth is its crust, which is divided into half a dozen large plates and a number of smaller ones. These move against each other, crushing together or pulling apart at the joints, or One slipping under the other-prevented from destroying us only by the extreme slowness of the process. And yet for drama's sake, we can imagine the changes becoming more rapid ("The New Atlantis" by Ursula K. Le Guin),

Closer to reality-is the fact that over the last million years, our planet has been undergoing periodic ice ages. It seems almost certain that there will be additional ice ages and that the glaciers will come grinding down again in some tens of thousands of years. What if the next ice age is a particularly bad one? And what will be left to bear testimony to the existence of humanity ("History Lesson" by Arthur C. Clarke)?

Nor may it be inanimate changes that will destroy humanity. It may be other life forms. To be sure, human beings have established their dominion over the Earth fas they were directed to do in the first chapter of Genesis) but other life forms may evolve and grow more intelligent; or life forms may come across the void of space ("Seeds of the Dusk" by Raymond Z. Gallun).

The difficulty might be not with anything intelligent but with our great enemy, the pathogenic microorganism. The greatest catastrophe humanity ever suffered was the Black Death in the fourteenth century. As late as the mid-1970s, "Legionnaire's disease" put a fright into us. What else might happen ("Dark Benediction" by Walter M. Miller, Jr.)?

The New Atlantis
by Ursula K. Le Guin

Coming back from my Wilderness Week I sat by an odd sort of man in the bus. For a long time we didn't talk; I was mending stockings and he was reading. Then the bus broke down a few miles outside Gresham. Boiler trouble, the way it generally is when the driver insists on trying to go over thirty. It was a Supersonic Superscenic Deluxe Longdistance coal-burner, with Home Comfort, that means a toilet, and the seats were pretty comfortable, at least those that hadn't yet worked loose from their bolts, so everybody waited inside the bus; besides, it was raining. We began talking, the way people do when there's a breakdown and a wait. He held up his pamphlet and tapped it-he was a dry-looking man with a schoolteacherish way of using his hands-and said, "This is interesting. I've been reading that a new continent is rising from the depths of the sea."

The blue stockings were hopeless. You have to have something besides holes to darn onto. "Which sea?"

"They're not sure yet. Most specialists think the Atlantic. But there's evidence it may be happening in the Pacific, too."

"Won't the oceans get a little crowded?" I said, not taking it seriously. I was a bit snappish, because of the breakdown and because those blue stockings had been good warm ones.

He tapped the pamphlet again and shook his head, quite serious. "No," he said. "The old continents are sinking, to make room for the new. You can see that that is happening."

You certainly can. Manhattan Island is now under eleven feet of water at low tide, and there are oyster beds in Ghir-ardelli Square,

"I thought that was because the oceans are rising from polar melt."

He shook his head again. "That is a factor. Due to the greenhouse effect of pollution, indeed Antarctica may become inhabitable. But climatic factors will not explain the emergence of the new-or, possibly, very old-continents in the Atlantic and Pacific." He went on explaining about continental drift, but I liked the idea of inhabiting Antarctica and daydreamed about it for a while. I thought of it as very empty, very quiet, all white and blue, with a faint golden glow northward from the unrising sun behind the long peak of Mount Erebus. There were a few people there; they were very quiet, too, and wore white tie and tails. Some of them carried oboes and violas. Southward the white land went up in a long silence toward the Pole.

Just the opposite, in fact, of the Mount Hood Wilderness Area. It had been a tiresome vacation: The other women in the dormitory were all right, but it was macaroni for breakfast, and there were so many organized sports. I had looked forward to the hike up to the National Forest Preserve, the largest forest left in the United States, but the trees didn't look at all the way they do in the postcards and brochures and Federal Beautification Bureau advertisements. They were spindly, and they all had little signs on saying which union they had been planted by. There were actually a lot more green picnic tables and cement Men's and Women's than there were trees. There was an electrified fence all around the forest to keep out unauthorized persons. The forest ranger talked about mountain jays, "bold little robbers," he said, "who will come and snatch the sandwich from your very hand," but I didn't see any, Perhaps because that was the weekly Watch Those Surplus Calories! Day for all the women, and so we didn't have any sandwiches. If I'd seen a mountain jay I might have snatched the sandwich from his very hand, who knows. Anyhow it was an exhausting week, and I wished I'd stayed home and practiced, even though I'd have lost a week's pay because staying home and practicing the viola doesn't count as planned implementation of recreational leisure as defined by the Federal Union of Unions.

When I came back from my Antarctican expedition, the man was reading again, and I got a look at his pamphlet; and that was the odd part of it. The pamphlet was called "Increasing Efficiency in Public Accountant Training Schools," and I could see from the one paragraph I got a glance at that there was nothing about new continents emerging from the ocean depths in it-nothing at all.

Then we had to get out and walk on into Gresham, because they had decided that the best thing for us all to do was get onto the Greater Portland Area Rapid Public Transit Lines, since there had been so many breakdowns that the charter bus company didn't have any more buses to send out to pick us up. The walk was wet, and rather dull, except when we passed the Cold Mountain Commune. They have a wall around it to keep out unauthorized persons, and a big neon sign out front saying COLD MOUNTAIN COMMUNE and there were some people in authentic jeans and ponchos by the highway selling macrame belts and sandcast candies and soybean bread to the tourists. In Gresham, I took the 4:40 GPARPTL Superjet Flyer train to Burnside and East 230th, and then walked to 217th and got the bus to the Goldschmidt Overpass, and transferred to the shuttlebus, but it had boiler trouble, so I didn't reach the downtown transfer point until ten after eight, and the buses go on a once-an-hour schedule at 8:00, so I got a meatless hamburger at the Longhorn Inch-Thick Steak House Dinerette and caught the nine o'clock bus and got home about ten.

When I let myself into the apartment I flipped the switch to turn on the lights, but there still weren't any. There had been a power outage in West Portland for three weeks. So I went feeling about for the candles in the dark, and it was a minute or so before I noticed that somebody was lying on my bed.

I panicked, and tried again to turn the lights on.

It was a man, lying there in a long thin heap. I thought a burglar had got in somehow while I was away and died. I opened the door so I could get out quick or at least my yells could be heard, and then I managed not to shake long enough to strike a match, and lighted the candle, and came a little closer to the bed.

The light disturbed him. He made a sort of snorting in his throat and turned his head. I saw it was a stranger, but I knew his eyebrows, then the breadth of his closed eyelids, then I saw my husband.

He woke up while I was standing there over him with the candle in my hand. He laughed and said still half-asleep, "Ah, Psyche! From the regions which are holy land."

Neither of us made much fuss. It was unexpected, but it did seem so natural for him to be there, after all, much more natural than for him not be there, and he was too tired to be very emotional. We lay there together in the dark, and he explained that they had released him from the Rehabilitation Camp early because he had injured his back in an accident in the gravel quarry, and they were afraid it might get worse.

If he died there it wouldn't be good publicity abroad, since there have been some nasty rumors about deaths from illness in the Rehabilitation Camps and the Federal Medical Association Hospitals, and there are scientists abroad who have heard of Simon, since somebody published his proof of Gold-bach's Hypothesis in Peking, So they let him out early, with eight dollars in his pocket, which is what he had in his pocket when they arrested him, which made it, of course, fair. He had walked and hitched home from Coeur D'Alene, Idaho, with a couple of days in jail in Walla Walla for being caught hitchhiking. He almost fell asleep telling me this, and when he had told me, he did fall asleep. He needed a change of clothes and a bath but I didn't want to wake him. Besides, I was tired, too. We lay side by side and his head was on my arm. I don't suppose that I have ever been so happy. No; was it happiness? Something wider and darker, more like knowledge, more like the night: joy.

It was dark for so long, so very long. We were all blind. And there was the cold, a vast, unmoving, heavy cold. We could not move at all. We did not move. We did not speak. Our mouths were closed, pressed shut by the cold and by the weight. Our eyes were pressed shut. Our limbs were held still. Our minds were held still. For how long? There was no length of time;

how long is death? And is one dead only after living, or before life as well? Certainly we thought, if we thought anything, that we were dead; but if we had ever been alive, we had forgotten it.

There was a change. It must have been the pressure that changed first, although we did not know it. The eyelids are sensitive to touch. They must have been weary of being shut. When the pressure upon them weakened a little, they opened. But there was no way for us to *know that. It was too cold for us to feel anything. There was nothing to be seen. There was black.*

But then-"'then," for the event created time, created before and after, near and far, now and then-"then" there was the light. One light. One small, strange light that passed slowly, at what distance we could not tell. A small, greenish white, slightly blurred point of radiance, passing.

Our eyes were certainly open, "then," for we saw it. We saw the moment. The moment in a point of light. Whether in darkness or in the field of all light, the moment is small, and moves, but not quickly. And "then" it is gone.

It did not occur to us that there might be another moment. There was no reason to assume that there might be more than one. One was marvel enough: that in all the field of the dark, in the cold, heavy, dense, moveless, timeless, placeless, boundless black, there should have occurred, once, a small slightly blurred, moving light! Time need be created only once, we thought.

But we were mistaken. The difference between one and more than one is all the difference in the world. Indeed, that difference is the world.

The light returned.

The same light, or another one? There was no telling.

But, "this time," we wondered about the light: Was it small and near to us, or large and far away? Again there was no telling; but there was something about the way it moved, a trace of hesitation, a tentative quality, that did not seem proper to anything large and remote. The stars, for instance. We began to remember the stars.

The stars had never hesitated.

Perhaps the noble certainty of their gait had been a mere effect of distance. Perhaps in fact they had hurtled wildly, enormous furnace-fragments of a primal bomb thrown through the cosmic dark; but time and distance soften all agony. If the universe, as seems likely, began with an act of destruction, the "Stars we had used to see told no tales of it. They had been implacably serene.

The planets, however… We began to remember the planets. They had suffered certain changes both of appearance and of course. At certain times of the year Mars would reverse its direction and go backward through the stars. Venus had been brighter and less bright as she went through her phases of crescent, full, and wane. Mercury had shuddered like a skidding drop of rain on the sky flushed with daybreak. The light we now watched

had that erratic, trembling quality. We saw it, unmistakably, change direction and go backward. It then grew smaller and fainter; blinked-an eclipse?-and slowly disappeared.

Slowly, but not slowly enough for a planet.

Then-the third "then!"-arrived the indubitable and positive Wonder of the World, the Magic Trick, watch now, watch, you will not believe your eyes, mama, mama, look what I can do-

Seven lights in a row, proceeding fairly rapidly, with a darting movement, from left to right. Proceeding less rapidly from right to left, two dimmer, greenish lights. Two-lights halt, blink, reverse course, proceed hastily and in a wavering manner from left to right. Seven-lights increase speed, and catch up. Two-lights flash desperately, flicker, and are gone.

Seven-lights hang still for some while, then merge gradually into one streak, veering away, and little by little vanish into the immensity of the dark.

But in the dark now are growing other lights, many of them: lamps, dots, rows, scintillations-some near at hand, some far. Like the stars, yes, but not stars. It is not the great Existences we are seeing, but only the little lives.

In the morning Simon told me something about the Camp, but not until after he had had me check the apartment for bugs. I thought at first he had been given behavior mod and gone paranoid. We never had been infested. And I'd been living alone for a year and a half; surely they didn't want to hear me talking to myself? But he said, "They may have been expecting me to come here."

"But they let you go free!"

He just lay there and laughed at me. So I checked everywhere we could think of. I didn't find any bugs, but it did look as if somebody had gone through the bureau drawers while I was away in the Wilderness. Simon's papers were all at Max's, so that didn't matter. I made tea on the Primus, and washed and shaved Simon with the extra hot water in the kettle-he had a thick beard and wanted to get rid of it because of the lice he had brought from Camp-and while we were doing that he told me about the Camp. In fact he told me very little, but not much was necessary.

He had lost about 20 pounds. As he only weighed 140 to start with, this left little to go on with. His knees and wrist bones stuck out like rocks under the skin. His feet were all swollen and chewed-looking from the Camp boots; he hadn't dared take the boots off, the last three days of walking, because he was afraid he wouldn't be able to get them back on. When he had to move or sit up so I could wash him, he shut his eyes.

"Am I really here?" he asked. "Am I here?"

"Yes," I said. "You are here. What I don't understand is how you

got here."

"Oh, it wasn't bad so long as I kept moving. All you need is to know where you're going-to have someplace to go. You know, some of the people in Camp, if they'd let them go, they wouldn't have had that. They couldn't have gone anywhere. Keeping moving was the main thing. See, my back's all seized up, now."

When he had to get up to go to the bathroom he moved like a ninety-year-old. He couldn't stand straight, but was all bent out of shape, and shuffled. I helped him put on clean clothes. When he lay down on the bed again, a sound of pain came out of him, like tearing thick paper. I went around the room putting things away. He asked me to come sit by him and said I was going to drown him if I went on crying. "You'll submerge the entire North American continent," he said. I can't remember what he said, but he made me laugh finally. It is hard to remember things Simon says, and hard not to laugh when he says them. This is not merely the partiality of affection: He makes everybody laugh. I doubt that he intends to. It is just that a mathematician's mind works differently from other people's. Then when they laugh, that pleases him.

It was strange, and it is strange, to be thinking about "him," the man I have known for ten years, the same man, while "he" lay there changed out of recognition, a different man. It is enough to make you understand why most languages have a word like "soul." There are various degrees of death, and time spares us none of them. Yet something endures, for which a word is needed.

I said what I had not been able to say for a year and a half: "I was afraid they'd brainwash you."

He said, "Behavior mod is expensive. Even just the drugs. They save it mostly for the VIPs. But I'm afraid they got a notion I might be important after all. I got questioned a lot the last couple of months. About my 'foreign contacts.'" He snorted. "The stuff that got published abroad, I suppose. So I want to be careful and make sure it's just a Camp again next time, and not a Federal Hospital."

"Simon, were they… are they cruel, or just righteous?"

He did not answer for a while. He did not want to answer. He knew what I was asking. He knew by what thread hangs hope, the sword, above our heads.

"Some of them…" he said at last, mumbling.

Some of them had been cruel. Some of them had enjoyed their work. You cannot blame everything on society,

"Prisoners, as well as guards," he said.

You cannot blame everything on the enemy.

"Some of them, Belle," he said with energy, touching my hand-"some of them, there were men like gold there-"

The thread is tough; you cannot cut it with one stroke.

"What have you been playing?" he asked.

"Forrest, Schubert."

"With the quartet?"

"Trio, now. Janet went to Oakland with a new lover."

"Ah, poor Max."

"It's just as well, really. She isn't a good pianist."

I make Simon laugh, too, though I don't intend to. We talked until it was past time for me to go to work. My shift since the Full Employment Act last year is ten to two. I am an inspector in a recycled paper bag factory. I have never rejected a bag yet; the electronic inspector catches all the defective ones first. It is a rather depressing job. But it's only four hours a day, and it takes more time than that to go through all the lines and physical and mental examinations, and fill out all the forms, and talk to all the welfare counselors and inspectors every week in order to qualify as Unemployed, and then line up every day for the ration stamps and the dole. Simon thought I ought to go to work as usual. I tried to, but I couldn't. He had felt very hot to the touch when I kissed him goed-bye. I went instead and got a black-market doctor. A girl at the factory had recommended her, for an abortion, if I ever wanted one without going through the regulation two years of sex-depressant drugs the fed-meds make you take when they give you an abortion. She was a jeweler's assistant in a shop on Alder Street, and the girl said she was convenient because if you didn't have enough cash you could leave something in pawn at the jeweler's as payment. Nobody ever does have enough cash, and of course credit cards aren't worth much on the black market.

The doctor was willing to come at once, so we rode home on the bus together. She gathered very soon that Simon and I were married, and it was funny to see her look at us and smile like a cat. Some people love illegality for its own sake. Men, more often than women. It's men who make laws, and enforce them, and break them, and think the whole performance is wonderful. Most women would rather just ignore them. You could see that this woman, like a man, actually enjoyed breaking them. That may have been what put her into an illegal business in the first place, a preference for the shady side. But there was more to it than that. No doubt she'd wanted to be a doctor, too; and the Federal Medical Association doesn't admit women into the medical schools. She probably got her training as some other doctor's private pupil, under the counter. Very much as Simon learned mathematics, since the universities don't teach much but Business Administration and Advertising and Media Skills any more. However she learned it, she seemed to know her stuff. She fixed up a kind of

homemade traction device for Simon very handily and informed him that if he did much more walking for two months he'd be crippled the rest of his life, but if he behaved himself he'd just be more or less lame. It isn't the kind of thing you'd expect to be grateful for being told, but we both were. Leaving, she gave me a bottle of about two hundred plain white pills, unlabeled. "Aspirin," she said. "He'll be in a good deal of pain off and on for weeks."

I looked at the bottle. I had never seen aspirin before, only the Super-Buffered Pane-Gon and the Triple-Power N-L-G-Zic and the Extra-Strength Apansprin with the miracle ingredient more doctors recommend, which the fed-meds always give you prescriptions for, to be filled at your FMA-approved private enterprise friendly drugstore at the low, low prices established by the Pure Food and Drug Administration in order to inspire competitive research.

"Aspirin," the doctor repeated. "The miracle ingredient more doctors recommend." She cat-grinned again. I think she liked us because we were living in sin. That bottle of black-market aspirin was probably worth more than the old Navajo bracelet I pawned for her fee.

I went out again to register Simon as 'temporarily domiciled at my address and to apply for Temporary Unemployment Compensation ration stamps for him. They, only give them to you for two weeks and you have to come every day; but to register him as Temporarily Disabled meant getting the signatures of two fed-meds, and I thought I'd rather put that off for a while. It took three hours to go through the lines and get the forms he would have to fill out, and to answer the 'crats' questions about why he wasn't there in person. They smelled something fishy. Of course it's hard for them to prove that two people are married and aren't just adultering if you move now and then and your friends help out by sometimes registering one of you as living at their address; but they had all the back files on both of us and it was obvious that we had been around each other for a suspiciously long time. The State really does make things awfully hard for itself. It must have been simpler to enforce the laws back when marriage was legal and adultery was what got you into trouble. They only had to catch you once. But I'll bet people broke the law just as often then as they do now.

The lantern-creatures came close enough at last that we could see not only their light, but their bodies in. the illumination of their light. They were not pretty. They were dark colored, most often a dark red, and they were all mouth. They ate one another whole. Light light all swallowed together in the vaster mouth of the darkness. They moved slowly, for nothing, however small and hungry, could move fast under that weight, in that cold. Their eyes, round with fear, were never closed. Their bodies were

tiny and bony behind the gaping jaws. They wore queer, ugly decorations on their lips and skulls: fringes, serrated wattles, featherlike fronds, gauds, bangles, lures. Poor little sheep of the deep pastures! Poor ragged, hunch-jawed dwarfs squeezed to the bone by the weight of the darkness, chilled to the bone by the cold of the darkness, tiny monsters burning with bright hunger, who brought us bock to life!

Occasionally, in the wan, sparse illumination of one of the lantern-creatures, we caught a momentary glimpse of other, large, unmoving shapes: the barest suggestion, off in the distance, not of a wall, nothing so solid and certain as a wall, but of a surface, an angle… Was it there?

Or something would glitter, faint, far off, far down. There was no use trying to make out what it might be. Probably it was only a fleck of sediment, mud or mica, disturbed by a struggle between the lantern-creatures, flickering like a bit of diamond dust as it rose and settled slowly. In any case, we could not move to go see what it was. We had not even the cold, narrow freedom of the lantern-creatures. We were immobilized, borne down, still shadows among the half-guessed shadow walls. Were we there?

The lantern-creatures showed no awareness of us. They passed before us, among us, perhaps even through us-*it was impossible to be sure. They were not afraid, or curious.*

Once something a little larger than a hand came crawling near, and for a moment we saw quite distinctly the clean angle where the foot of a wall rose from the pavement, in the glow cast by the crawling creature, which was covered with a foliage of plumes, each plume dotted with many tiny, bluish paints of light. We saw the pavement beneath the creature and the wall beside it, heartbreaking in its exact, clear linearity, its opposition to all that was fluid, random, vast, and void. We saw the creature's claws, slowly reaching out and retracting like small stiff fingers, touch the wall. Its plumage of light quivering, it dragged itself along and vanished behind the corner of the wall.

So we knew that the wall was there; and that it was an outer wall, a housefront, perhaps, or the side of one of the towers of the city.

We remembered the towers. We remembered the city. We had forgotten it. We had forgotten who we were; but we remembered the city, now.

When I got home, the FBI had already been there. The computer at the police precinct where I registered Simon's address must have flashed it right over to the computer at the FBI building. They had questioned Simon for about an hour, mostly about what he had been doing during the twelve days it took him to get from the Camp to Portland. I suppose they thought he had flown to Peking or something. Having a police record in Walla Walla for hitchhiking helped him establish his story. He told me that one of them had gone to the bathroom. Sure enough I found a bug stuck on the top of the

bathroom door frame. I left it, as we figured it's really better to leave it when you know you have one, than to take it off and then never be sure they haven't planted another one you don't know about. As Simon said, if we felt we had to say something unpatriotic we could always flush the toilet at the same time.

I have a battery radio-there are so many work stoppages because of power failures, and days the water has to be boiled, and so on, that you really have to have a radio to save wasting time and dying of typhoid-and he turned it on while I was making supper on the Primus. The six o'clock All-American Broadcasting Company news announcer announced that peace was at hand in Uruguay, the president's confidential aide having been seen to smile at a passing blonde as he left the 613th day of the secret negotiations in a villa outside Katmandu. The war in Liberia was going well; the enemy said they had shot down seventeen American planes but the Pentagon said we had shot down twenty-two enemy planes, and the capital city-I forget its name, but it hasn't been inhabitable for seven years anyway-was on the verge of being recaptured by the forces of freedom. The police action in Arizona was also successful. The Neo-Birch insurgents in Phoenix cauld not hold out much longer against the massed might of the American army and air force, since their underground supply of small tactical nukes from the Weathermen in Los Angeles had been cut off. Then there was an advertisement for Ped-Cred cards, and a commercial for the Supreme Court: "Take your legal troubles to the Nine Wise Men!" Then there was something about why tariffs had gone up, and a report from the stock market, which had just closed at over two thousand, and a commercial for U.S. Government canned water, with a catchy little tune: "Don't be sorry when you drink/It's not as healthy as you think/Don't you think you really ought to/Drink coo-ool, puu-uure U.S.G. water?"- with three sopranos in close harmony on the last line. Then, just as the battery began to give out and his voice was dying away into a faraway tiny whisper, the announcer seemed to be saying something about a new continent emerging.

"What was that?"

"I didn't hear," Simon said, lying with his eyes shut and his face pale and sweaty. I gave him two aspirins before we ate. He ate little, and fell asleep while I was washing the dishes in the bathroom. I had been going to practice, but a viola is fairly wakeful in a one-room apartment. I read for a while instead. It was a best seller Janet had given me when she left. She thought it was very good, but then she likes Franz Liszt too. I don't read much since the libraries were closed down, it's too hard to get books; all you can buy is best sellers. I don't remember the title of this one, the cover just said "Ninety Million

Copies in Print!!!" It was about smalltown sex life in the last century, the dear old 1970s when there weren't any problems and life was so simple and nostalgic. The author squeezed all the naughty thrills he could out of the fact that all the main characters were married. I looked at the end and saw that all the married couples shot each other after all their children became schizophrenic hookers, except for one brave pair that divorced and then leapt into bed together with a clear-eyed pair of government-employed lovers for eight pages of healthy group sex as a brighter future dawned. I went to bed then, too. Simon was hot, but sleeping quietly. His breathing was like the sound of soft waves far away, and I went out to the dark sea on the sound of them.

I used to go out to the dark sea, often, as a child, falling asleep. I had almost forgotten it with my waking mind. As a child all I had to do was stretch out and think, "the dark sea… the dark sea…" and soon enough I'd be there, in the great depths, rocking. But after I grew up it only happened rarely, as a great gift. To know the abyss of the darkness and not to fear it, to entrust oneself to it and whatever may arise from it-what greater gift?

We *watched the tiny lights come and go around us, and doing so, we gained a sense of space and of direction-near and far, at least, and higher and lower. It was that sense of space that allowed us to became aware of the currents. Space was no longer entirely still around us, suppressed by the enormous pressure of its own weight. Very dimly we were aware that the cold darkness moved, slowly, softly, pressing against us a little for a long time, then ceasing, in* a *vast oscillation. The empty darkness flowed slowly along our unmoving unseen bodies; along them, past them; perhaps through them; we could not tell.*

Where did they come from, those dim, slow, vast tides? What pressure or attraction stirred the deeps to these slow drifting movements? We could not understand that; we could only feel their touch against us, but in straining our sense to guess their origin or end, we became aware of something else: something out there in the darkness of the great currents: sounds. We listened. We heard.

So our sense of space sharpened and localized to a sense of place. For sound is local, as sight is not. Sound is delimited by silence; and it does not rise out of the silence unless it is fairly close, both in space and in time. Though we stand where once the singer stood we cannot hear the voice singing; the-years have carried it off on their tides, submerged it. Sound is a fragile thing, a tremor, as delicate as life itself. We may see the stars, but we cannot hear them. Even were the hollowness of outer space an atmosphere, an ether that transmitted the waves of sound, we could not hear the stars; they are too far away. At most if we listened we might hear our own sun, all the mighty, roiling, exploding storm of its burning, as a whisper at the edge of hearing.

A sea wave laps one's feet: It is the shock wave of a volcanic eruption on the far side of the world. But one hears nothing.

A red light flickers on the horizon: It is the reflection in smoke of a city on the distant mainland, burning. But one hears nothing.

Only on the slopes of the volcano? in the suburbs of the city, does one begin to hear the deep thunder, and the high voices crying.

Thus, when we became aware that we were hearing, we were sure that the sounds we heard were fairly close to us. And yet we may have been quite wrong. For we were, in a strange place, a deep place. Sound travels fast and far in the deep places, and the silence there is perfect, letting the least noise be heard for hundreds of miles.

And these were not small noises. The lights were tiny, but the sounds were vast: not loud, but very large. Often they were below the range of hearing, long slow vibrations rather than sounds, The first we heard seemed to us to rise up through the currents from beneath us immense groans, sighs felt along the bone, a rumbling, a deep uneasy whispering.

Later, certain sounds came down to us from above, or borne along the endless levels of the darkness, and these were stranger yet, for they were music. A huge, calling, yearning music from far away in the darkness, calling not to us. Where are you? I am here.

Not to us.

They were the voices of the great souls, the great lives, the lonely ones, the voyagers. Calling. Not often answered. Where are you? Where have you gone?

But the bones, the keels and girders of white bones on icy isles of the South, the shores of bones did not reply.

Nor could we reply. But we listened, and the tears rose in our eyes, salt, not so salt as the oceans, the world-girdling deep bereaved currents, the abandoned roadways of the great lives; not so salt, but warmer.

I am here. Where have you gone?

No answer.

Only the whispering thunder from below. But we knew now, though we could not answer, we knew because we heard, because we felt, because we wept, we knew that we were; and we remembered other voices.

Max came the next night. I sat on the toilet lid to practice, with the bathroom door shut. The FBI men on the other end of the bug got a solid half hour of scales and doublestops, and then a quite good performance of the Hindemith unaccompanied viola sonata. The bathroom being very small and all hard surfaces, the noise I made was really tremendous. Not a good sound, far too much echo, but the sheer volume was contagious, and I played louder as I went on. The man up above knocked on his floor once; but if I have to listen to the weekly All-American Olympic Games at full blast every Sunday morning from his TV set, then he has to accept Paul Hindemith coming up out of his

toilet now and then.

When I got tired I put a wad of cotton over the bug, and came out of the bathroom half-deaf. Simon and Max were on fire. Burning, unconsumed. Simon was scribbling formulae in traction, and Max was pumping his elbows up and down the way he does, like a boxer, and saying "The e - lec - tron emis - sion…" through his npse, with his eyes narrowed, and his mind evidently going light-years per second faster than his tongue, because he kept beginning over and saying "The e - lec - tron emis - sion…" and pumping his elbows.

Intellectuals at work are very strange to look at. As strange as artists. I never could understand how an audience can sit there and *look* at a fiddler rolling his eyes and biting his tongue, or a horn player collecting spit, or a pianist like a black cat strapped to an electrified bench, as if what they *saw* had anything to do with the music.

I damped the fires with a quart of black-market beer-the legal kind is better, but I never have enough ration stamps for beer; I'm not thirsty enough to go without eating-and gradually Max and Simon cooled down. Max would have stayed talking all night, but I drove him out because Simon was looking tired.

I put a new battery in the radio and left it playing in the bathroom, and blew out the candle and lay and talked with Simon; he was too excited to sleep. He said that Max had solved the problems that were bothering them before Simon was sent to Camp, and had had fitted Simon's equations to (as Simon put it) the bare facts, which means they have achieved "direct energy conversion." Ten or twelve people have worked on it at different times since Simon published the theoretical part of it when he was twenty-two. The physicist Ann Jones had pointed out right away that the simplest practical application of the theory would be to build a "sun tap," a device for collecting and storing solar energy, only much cheaper and better than the U.S.G. Sola-Heetas that some rich people have on their houses. And it would have been simple only they kept hitting the same snag. Now Max has got around the snag.

I said that Simon published the theory, but that is inaccurate. Of course he's never been able to publish any of his papers, in print; he's not a federal employee and doesn't have a government clearance. But it did get circulated in what the scientists and poets call Sammy's-dot, that is, just handwritten or hectographed. It's an old joke that the FBI arrests everybody with purple fingers, because they have either been hectographing Sammy's-dots, or they have impetigo.

Anyhow, Simon was on top of the mountain that night. His true joy is in the pure math; but he had been working with Clara and Max and the others in this effort to materialize the theory for ten years, and a taste of material victory is a good thing, once in a lifetime.

I asked him to explain what the sun tap would mean to the masses, with me as a representative mass. He explained that it means we can tap solar energy for power, using a device that's easier to build than ajar battery. The efficiency and storage capacity are such that about ten minutes of sunlight will power an apartment complex like ours, heat and lights and elevators and all, for twenty-four hours; and no pollution, particulate, thermal, or radioactive. "There isn't any danger of using up the sun?" I asked. He took it soberly- it was a stupid question, but after all not so long ago people thought there wasn't any danger of using up the earth-and said no, because we wouldn't be pulling out energy, as we did when we mined and lumbered and split atoms, but just using the energy that comes to us anyhow: as the plants, the trees and grass and rosebushes, always have done. "You could call it Flower Power," he said. He was high, high up on the mountain, ski-jumping in the sunlight.

"The State owns us," he said, "because the corporative State has a monopoly on power sources, and there's not enough power to go around. But now, anybody could build a generator on their roof that would furnish enough power to light a city."

I looked out the window at the dark city.

"We could completely decentralize industry and agriculture. Technology could serve life instead of serving capital. We could each run our own life. Power is power!… The State is a machine. We could unplug the machine, now. Power corrupts; absolute power corrupts absolutely. But that's true only when there's a price on power. When groups can keep the power to themselves; when they can use physical power-to in order to exert spiritual power-over; when might makes right. But if power is free? If everybody is equally mighty? Then everybody's got to find *a* better way of showing that he's right…"

"That's what Mr. Nobel thought when he invented dynamite," I said. "Peace on earth."

He slid down the sunlit slope a couple of thousand feet and stopped beside me in a spray of snow, smiling. "Skull at the banquet," he said, "finger writing on the wall. Be still! Look, don't you see the sun shining on the Pentagon, all the roofs are off, the sun shines at last into the corridors of power…And they shrivel up, they wither away. The green grass grows through the carpets of the Oval Room, the *Hot* Line is disconnected for nonpayment of the bill. The first thing we'll do *is* build an electrified fence outside the electrified fence around the White House. The inner one prevents unauthorized persons from getting in. The outer one will prevent authorized persons from getting out…"

Of course he was bitter. Not many people come out of prison sweet.

But it was cruel, to be shown this great hope, and to know-that there was no hope for it. He did know that. He knew it right along. He knew that there was no mountain, that he was skiing on the wind.

The tiny lights of the lantern-creatures died out one by one, sank away. The distant lonely voices were silent. The cold, slow currents flowed, vacant, only shaken from time to time by a shifting in the abyss.

It was dark again, and no voice spoke. All dark, dumb, cold.

Then the sun rose.

It was not like the dawns we had begun to remember: the change, manifold and subtle, in the smell and touch of the air; the hush that, instead of sleeping, wakes, holds still, and waits; the appearance of objects, looking gray, vague, and new, as if just created-distant mountains against the eastern sky, one's own hands, the hoary grass full of dew and shadow, the fold in the gdge of a curtain hanging by the window-and then, before one is quite sure that one is indeed seeing again, that the light has returned, that day is breaking, the first, abrupt, sweet stammer of a waking bird. And after that the chorus, voice by voice: This is my nest, this is my tree, this is my egg, this is my day, this ig my Life, here I am, here I am, hurray for me! I'm here!-No, it wasn't like that at all, this dawn. It was completely silent, and it was blue.

In the dawns that we had begun to remember, one did not become aware of the light itself, but of the separate objects touched by the light, the things, the world. They were there, visible again, as if visibility were their own property, not a gift from the rising sun,

In this,dawn, there was nothing but the light itself. Indeed there was not even light, we would have said, but only color: blue.

There was no compass bearing to it. It was not brighter in the east. There was no east or west. There was only up and down, below and above. Below was dark. The blue light came from above. Brightness fell. Beneath, where the shaking thunder had stilled, the brightness died away through violet into blindness.

We, arising, watched light fall.

In a way it was more like an ethereal snowfall than like a sunrise. The light seemed to be in discrete particles, infinitesimal flecks, slowly descending, faint, fainter than flecks of fine snow on a dark night, and tinier; but blue. A soft, penetrating blue tending to the violet, the color of the shadows in an iceberg, the color of a streak of sky between gray clouds on a winter afternoon before snow: faint in intensity but vivid in hue: the color of the remote, the color of the cold, the color farthest from the sun.

On Saturday night they held a scientific congress in our room. Clara and *Max* came, of course, and the engineer Phil Drum and three others who had worked on the sun tap. Phil Drum was very pleased with himself because he had actually built one of the things, a solar cell, and brought it along. I don't think it had occurred to either Max

or Simon to build one. Once they knew it could be done they were satisfied and wanted to get on with something else. But Phil unwrapped his baby with a lot of flourish, and people made remarks like, "Mr. Watson, will you come here a minute," and "Hey, Wilbur, you're off the ground!" and "I say, nasty mould you've got there, Alec, why don't you throw it out?" and "Ugh, ugh, burns, burns, wow, ow," the latter from Max, who does look a little pre-Mousterian. Phil explained that he had exposed the cell for one minute at four in the afternoon up in Washington Park during a light rain. The lights were back on on the West Side since Thursday, so we could test it without being conspicuous.

We turned off the lights, after Phil had wired the table-lamp cord to the cell. He turned on the lamp switch. The bulb came on, about twice as bright as before, at its full forty watts-city power of course was never full strength. We all looked at it. It was a dime-store table lamp with a metallized gold base and a white plasticloth shade.

"Brighter than a thousand suns," Simon murmured from the bed.

"Could it be," said Clara Edmonds, "that we physicists have known sin-and have come out the other side?"

"It really wouldn't be any good at all for making bombs with," Max said dreamily.

"Bombs," Phil Drum said with scorn. "Bombs are obsolete. Don't you realize that we could move a mountain with this kind of power? I mean pick up Mount Hood, move it, and set it down. We could thaw Antarctica, we could freeze the Congo. We could sink a continent. Give me a fulcrum and I'll move the world. Well, Archimedes, you've got your fulcrum. The sun."

"Christ," Simon said, "the radio, Belle!"

The bathroom door was shut and I had put cotton over the bug, but he was right; if they were going to go ahead at this rate there had better be some added static. And though I liked watching their faces in the clear light of the lamp- they all had good, interesting faces, well worn, like the handles of wooden tools or the rocks in a running stream-I did not much want to listen to them talk tonight. Not because I wasn't a scientist, that made no difference. And not because I disagreed or disapproved or disbelieved anything they said. Only because it grieved me terribly, their talking. Because they couldn't rejoice aloud over a job done and a discovery made, but had to hide there and whisper about it. Because they couldn't go out into the sun.

I went into the bathroom with my viola and sat on the toilet lid and did a long set of sautille exercises. Then I tried to work at the Forrest trio, but it was too assertive. I played the solo part from *Harold in Italy,* which is beautiful, but it wasn't quite the right mood either. They were still going strong in the other room. I began to improvise.

After a few minutes in E-minor the light over the shaving mirror began to flicker and dim; then it died. Another outage, The table lamp in the other room did not go out, being connected with the sun, not with the twenty-three atomic fission plants that power the Greater Portland Area. Within two seconds somebody had switched it off, too, so that we shouldn't be the only window in the West Hills left alight; and I could hear them rooting for candles and rattling matches. I went on improvising in the dark. Without light, when you couldn't see all the hard shiny surfaces of things, the sound seemed softer and less muddled. I went on, and it began to shape up. All the laws of harmonics sang together when the bow came down. The strings of the viola were the cords of my own voice, tightened by sorrow, tuned to the pitch of joy. The melody created itself out of air and energy, it raised up the valleys, and the mountains and hills were made low, and the crooked straight, and the rough places plain. And the music went out to the dark sea and sang in the darkness, over the abyss.

When I came out they were *all* sitting there and none of them was talking. Max had been crying. I could see little candle flames in the tears around his eyes. Simon lay flat on the bed in the shadows, his eyes closed, Phil Drum sat hunched over, holding the solar cell in his hands.

I loosened the pegs, put the bow and the viola in the case, and cleared my throat. It was embarrassing. I finally said, I'm sorry."

One of the women spoke: Rose Abramski, a private student. of Simon's, a big shy woman who could hardly speak at all unless it was in mathematical symbols. "I saw it," she said. I saw it. I saw the white towers, and the water streaming down their sides, and running back down to the sea. And the sunlight shining in the streets, after ten thousand years of darkness."

"I heard them," Simon said, very low, from the shadow. "I heard their voices."

"Oh, Christ! Stop it!" Max cried out, and got up and went blundering out into the unlit hall, without his coat. We heard him running down the stairs.

"Phil," said Simon, lying there, "could we raise up the white towers, with our lever and our fulcrum?"

After a long silence Phil Drum answered, "We have the •power to do it."

"What else do we need?" Simon said. "What else do we need, besides power?"

Nobody answered him.

The blue changed. It became brighter, lighter, and at the same time thicker: impure. The ethereal luminosity of blue-violet turned to turquoise, intense and opaque. Still we could not have said that everything was now

turquoise-colored, for there were still no things. There was nothing, except the color of turquoise.

The change continued. The opacity became veined and thinned. The dense, solid color began to appear translucent, transparent. Then it seemed as if we were in the heart of a sacred jade, or the brilliant crystal of a sapphire or an emerald.

As at the inner structure of a crystal, there was no motion. But there was something else, now, to see. It was as if we saw the motionless, elegant inward structure of the molecules of a precious stone. Planes and angles appeared about us, shadowless and clear in that even, glowing, blue-green light.

These were the walls and towers of the city, the streets, the windows, the gates.

We knew them, but we did not recognize them. We did not dare to recognize them. It had been so long. And it was so strange. We had used to dream, when we lived in this city. We had lain down, nights, in the rooms behind the windows, and slept, and dreamed. We had all dreamed of the ocean, of the deep sea. Were we not dreaming now?

Sometimes the thunder and tremor deep below us rolled again, but it was faint now, far away; as far away as our memory of the thunder and the tremor and the fire and the towers falling, long ago. Neither the sound nor the memory frightened us. We knew them.

The sapphire light brightened overhead to green, almost green-gold. We looked up. The tops of the highest towers were hard to see, glowing in the radiance of light. The streets and doorways were darker, more dearly defined.

*In one of those long, jewel-dark streets something was moving-something not composed of planes and angles, but of curves and arcs. We all turned to look at it, slowly, wondering as we did so at the slow ease of our own motion, our freedom. Sinuous, with a beautiful flowing, gathering, rolling movement, now rapid and now tentative, the thing drifted across the street from a blank garden wall to the recess of a door. There, in the dark blue shadow, it was hard to see for a while. We watched. A pale blue curve appeared at the top of the doorway. A second followed, and a third. The moving thing clung or hovered there, above the door, like a swaying knot of silvery cords or a boneless hand, one arched finger pointing carelessly to something above the lintel of the door, something like itself, but motionless-*a *carving. A carving in jade light. A carving in stone.*

Delicately and easily the long curving tentacle followed the curves of the carved figure, the eight petal-limbs, the round eyes. Did it recognize its image?

The living one swung suddenly, gathered its curves in a loose knot, and darted away down the street, swift and sinuous. Behind it a faint cloud of darker blue hung for a minute and dispersed, revealing again the carved

figure above the door: the sea-flower, the cuttlefish, quick, great-eyed, graceful, evasive, the cherished sign, carved on a thousand walls, worked into the design of cornices, pavements, handles, lids of jewel boxes, canopies, tapestries, tabletops, gateways.

Down another street, about the level of the first-floor windows, came a flickering drift of hundreds of motes of silver. With a single motion all turned toward the cross street, and glittered off into the dark blue shadows.

There were shadows, now.

We looked up, up from the flight of silverfish, up from the streets where the jade-green currents flowed and the blue shadows fell. We moved and looked up, yearning, to the high towers of our city. They stood, the fallen towers. They glowed in the ever-brightening radiance, not blue or blue-green, up there, but gold. Far above them lay a vast, circular, trembling brightness: the sun's light on the surface of the sea.

We are here. When we break through the bright circle into life, the water will break and stream white down the white sides, of the towers, and run down the steep streets back into the sea. The water will glitter in dark hair, on the eyelids of dark eyes, and dry to a thin white film of salt.

We are here.

Whose voice? Who called to us?

He was with me for twelve days. On January 28th the 'crats came from the Bureau of Health, Education and Welfare and said that since he was receiving Unemployment Compensation while suffering from an untreated illness, the government must look after him and restore him to health, because health is the inalienable right of the citizens of a democracy. He refused to sign the consent forms, so the chief health officer signed them. He refused to get up, so two of the policemen pulled him up off the bed. He started to try to fight them. The chief health officer pulled his gun and said that if he continued to struggle he would shoot him for resisting welfare, and arrest me for conspiracy to defraud the government. The man who was holding my arms behind my back said they could always arrest me for unreported pregnancy with intent to form a nuclear family. At that Simon stopped trying to get free. It was really all he was trying to do, not to fight them, just to get his arms free. He looked at me, and they took him out.

He is in the federal hospital in Salem. I have not been able to find out whether he is in the regular hospital or the mental wards.

It was on'the radio again yesterday, about the rising land masses in the South Atlantic and the Western Pacific. At Max's the other night I saw a TV special explaining about geophysical stresses and subsidence and faults. The U.S. Geodetic Service is doing a lot of advertising around town, the most common one is a big billboard that says IT'S NOT OUR FAULT! with a picture of a beaver pointing to a

schematic map that shows how even if Oregon has a major earthquake and subsidence as California did last month, it will not affect Portland, or only the western suburbs perhaps. The news also said that they plan to halt the tidal waves in Florida by dropping nuclear bombs where Miami was. Then they will reattach Florida to the mainland with landfill. They are already advertising real estate for housing developments on the landfill. The president is staying at the Mile High White House in Aspen, Colorado. I don't think it will do him much good. Houseboats down on the Willamette are selling for $500,000. There are no trains or buses running south from Portland, because all the highways were badly damaged by the tremors and landslides last week, so I will have to see if I can get to Salem on foot. I still have the rucksack I bought for the Mount Hood Wilderness Week. I got some dry lima beans and raisins with my Federal Pair Share Super Value Green Stamp minimal ration book for February-it took the whole book-and Phil Drum made me a tiny camp stove powered with the solar cell. I didn't want to take the Primus, it's too bulky, and I did want to be able to carry the viola. Max gave me a half pint of brandy. When the brandy is gone I expect I will stuff this notebook into the bottle and put the cap on tight and leave it on a hillside somewhere between here and Salem. I like to think of it being lifted up little fay little by the water, and rocking, and going out to the dark sea.

Where are you?

We are here. Where have you gone?

History Lesson
by Arthur C. Clarke

No one could remember when the tribe had begun *its* long journey. The land of great rolling plains that had been its first home was now no more than a half-forgotten dream.

For many years Shann and his people had been fleeing through a country of low hills and sparkling lakes, and now the mountains lay ahead. This summer they must cross them to the southern lands. There was little time to lose. The white terror that had come down from the Poles, grinding continents to dust and freezing the very air before it, was less than a day's march behind.

Shann wondered if the glaciers could climb the mountains ahead, and within his heart he dared to kindle a little flame of hope. This might prove a barrier against which even the remorseless ice would batter in vain. In the southern lands of which the legends spoke, his people might find refuge at last.

It took weeks to discover a pass through which the tribe and the animals could travel. When midsummer came, they had camped in a lonely valley where the air was thin and the stars shone with a brilliance no one had ever seen before.

The summer was waning when Shann took his two sons and went ahead to explore the way. For three days they climbed, and for three nights slept as best they could on the freezing rocks. And on the fourth morning there was nothing ahead but a gentle rise to a cairn of gray stones built by other travelers, centuries ago.

Shann felt himself trembling, and not with cold, as they walked toward the little pyramid of stones. His sons had fallen behind. No one spoke, for too much was at stake. In *a* little while they would know if all their hopes had been betrayed.

To east and west, the wall of mountains curved away as if embracing the land beneath. Below lay endless miles of undulating plain, with a great river swinging across it in tremendous loops. It was a fertile land; one in which the tribe could raise crops knowing that there would be no need to flee before the harvest came.

Then Shann lifted his eyes to the south, and saw the doom of all his hopes. For there at the edge of the world glimmered that deadly light he had seen so often to the north-the glint of ice below the horizon.

There was no way forward. Through all the years of flight, the glaciers from the south had been advancing to meet them. Soon they would be crushed beneath the moving walls of ice…

Southern glaciers did not reach the mountains until a generation later. In that last summer the sons of Shann carried the sacred treasures of the tribe to the lonely cairn overlooking the plain. The ice that had once gleamed below the horizon was now almost at their feet. By spring it would be splintering against the mountain walls.

No one understood the treasures now. They were from a past too distant for the understanding of any man alive. Their origins were lost in the mists that surrounded the Golden

Age, and how they had come at last into the possession of this wandering tribe was a story that now would never be told. For it was the story of a civilization that had passed beyond recall.

Once, all these pitiful relics had been treasured for some good reason, and now they had become sacred though their meaning had long been lost. The print in the old books had faded centuries ago though much of the lettering was still visible-if there had been any to read it. But many generations had passed since anyone had had a use for a set of seven-figure logarithms, an atlas of the world, and the score of Sibelius' Seventh Symphony, printed, according to the flyleaf, by H. K. Chu and Sons, at the City of Pekin in the year 2371 *A.D.*

The old books were placed reverently in the little crypt that had been made to receive them. There followed a motley collection of fragments-gold and platinum coins, a broken telephoto lens, a watch, a cold light lamp, a microphone, the cutter from an electric shaver, some midget radio tubes, the flotsam that had been left behind when the great tide of civilization had ebbed forever.

All these treasures were carefully stowed away in their resting place. Then came three more relics, the most sacred of all because the least understood.

The first was a strangely shaped piece of metal, showing the coloration of intense heat. It was, in its way, the most pathetic of all these symbols from the past, for it told of man's greatest achievement and of the future he might have known. The mahogany stand on which it was mounted bore a silver plate with the inscription:

Auxiliary Igniter from Starboard Jet
Spaceship "Morning Star"
Earth-Moon, A.D. 1985

Next followed another miracle of the ancient science-a sphere of transparent plastic with strangely shaped pieces of metal embedded in it. At its centre was a tiny capsule of synthetic radio-element, surrounded by the converting screens that shifted its radiation far down the spectrum. As long as the material remained active, the sphere would be a tiny radio transmitter, broadcasting power in all

directions. Only a few of these spheres had ever been made. They had been designed as perpetual beacons to mark the orbits of the asteroids. But man had never reached the asteroids and the beacons had never been used.

Last of all was a flat, circular tin, wide in comparison with its depth. It was heavily sealed, and rattled when shaken. The tribal lore predicted that disaster would follow if it were ever opened, and no one knew that it held one of the great works of art of nearly a thousand years before.

The work was finished. The two men rolled the stones back into place and slowly began to descend the mountainside. Even to the last, man had given some thought to the future and had tried to preserve something for posterity.

That winter the great waves of ice began their first assault on the mountains, attacking from north and south. The foothills were overwhelmed in the first onslaught, and the glaciers ground them into dust. But the mountains stood firm, and when the summer came the ice retreated for a while.

So, winter after winter, the battle continued, and the roar of the avalanches, the grinding of rock and the explosions of splintering ice filled the air with tumult. No war of man's had been fiercer than this, and even man's battles had not quite engulfed the globe as this had done.

At last the tidal waves of ice began to subside and to creep slowly down the flanks of the mountains they had never quite subdued. The valleys and passes were still firmly in their grip. It was stalemate. The glaciers had met their match, but their defeat was too late to be of any use to man.

So the centuries passed, and presently there happened something that must occur once at least in the history of every world in the universe, no matter how remote and lonely it may be.

The ship from Venus came five thousand years too late, but its crew knew nothing of this. While still many millions of miles away, the telescopes had seen the great shroud of ice that made Earth the most brilliant object in the sky next to the sun itself.

Here and there the dazzling sheet was marred by black specks that revealed the presence of almost buried mountains. That was all. The rolling oceans, the plains And forests, the deserts and lakes-all that had been the world of man was sealed beneath the ice, perhaps forever.

The ship closed in to Earth and established an orbit less than a thousand miles away. For five days it circled the planet, while cameras recorded all that was left to see and a hundred instruments gathered information that would give the Venusian scientists many

years of work.

An actual landing was not intended. There seemed little purpose in it. But on the sixth day the picture changed. A panoramic monitor, driven to the limit of its amplification, detected the dying radiation of the five-thousand-year-old beacon. Through all the centuries, it had been sending out its signals with ever-failing strength as its radioactive heart steadily weakened.

The monitor locked on the beacon frequency. In the control room, a bell clamored for attention, A little later, the Venusian ship broke free from its orbit and slanted down toward Earth, toward a range of mountains that still towered proudly above the ice, and to a cairn of gray stones that the years had scarcely touched…

The great disc of the sun blazed fiercely in a sky no longer veiled with mist, for the clouds that had once hidden Venus had now completely gone. Whatever force had caused the change in the sun's radiation had doomed one civilization, but had given birth to another. Less than five thousand years before, the half-savage people of Venus had seen Sun and stars for the first time. Just as the science of Earth had begun with astronomy, so had that of Venus, and on the warm, rich world that man had never seen progress had been incredibly rapid.

Perhaps the Venusians had been lucky. They never knew the Dark Age that held man enchained for a thousand years. They missed the long detour into chemistry and mechanics but came at once to the more fundamental laws of radiation physics. In the time that man had taken to progress from the, Pyramids to the rocket-propelled spaceship, the Venusians had passed from the discovery of agriculture to anti-gravity itself-the ultimate secret that man had never learned.

The warm ocean that still bore most of the young planet's life rolled its breakers languidly against the sandy shore. So new was this continent that the very sands were coarse and gritty. There had not yet been time enough for the sea to wear them smooth.

The scientists lay half in the water, their beautiful reptilian bodies gleaming in the sunlight. The greatest minds of Venus had gathered on this shore from all the islands of the planet. What they were going to hear they did not yet know, except that it concerned the Third World and the mysterious race that had peopled it before the coming of the ice.

The Historian was standing on the land, for the instruments he wished to use had no love of water. By his side was a large machine which attracted many curious glances from his colleagues. It was clearly concerned with optics, for a lens system projected from it toward a screen of white material a dozen yards away.

The Historian began to speak. Briefly he recapitulated what little

had been discovered concerning the Third Planet and its people.

He mentioned the centuries of fruitless research that had failed to interpret a single word of the writings of Earth. The planet had been inhabited by a race of great technical ability. That, at least, was proved by the few pieces of machinery that had been found in the cairn upon the mountain.

"We do not know why so advanced a civilization came to an end," he observed. "Almost certainly, it had sufficient knowledge to survive an Ice Age. There must have been some factor of which we know nothing. Possibly disease or racial degeneration may have been responsible. It has even been suggested that the tribal conflicts endemic to our own species in prehistoric times may have continued on the Third Planet after the coming of technology.

"Some philosophers maintain that knowledge of machinery does not necessarily imply a high degree of civilization, and it is theoretically possible to have wars in a society possessing mechanical power, flight, and even radio. Such a conception is alien to our thoughts, but we must admit its possibility. It would certainly account for the downfall of the lost race.

"It has always been assumed that we should never know anything of the physical form of the creatures who lived on Planet Three. For centuries our artists have been depicting scenes from the history of the dead world, peopling it with all manner of fantastic beings. Most of these creations have resembled us more or less closely, though it has often been pointed out that because *we* are reptiles it does not follow that all intelligent life must necessarily be reptilian,

"We now know the answer to one of the most baffling problems of history. At last, after a hundred years of research, we have discovered the exact form and nature of the ruling life on the Third Planet,"

There was a murmur of astonishment from the assembled scientists. Some were so taken aback that they disappeared for a while into the comfort of the ocean, as all Venusians were apt to do in moments of stress. The Historian waited until his colleagues reemerged into the element they so dis-liked. He himself was quite comfortable, thanks to the tiny sprays that were continually playing over his body. With their help he could live on land for many hours before having to return to the ocean.

The excitement slowly subsided and the lecturer continued.

"One of the most puzzling of the objects found on Planet Three was a flat metal container holding a great length of transparent plastic material, perforated at the edges and would tightly into a spool. This transparent tape at first seemed quite featureless, but an examination with the new subelectronic microscope has shown that this is not the case. Along the surface of the material, invisible to our eyes but

perfectly clear under the correct radiation, are literally thousands of tiny picture It is believed that they were imprinted on the material by some chemical means, and have faded with the passage of time.

"These pictures apparently form a record of life as it was on the Third Planet at the height of its civilization. They are not independent. Consecutive pictures are almot identical, differing only in the detail of movement. The purpose of such a record is obvious. It is only necessary to project the scenes in rapid succession to give an illusion of continuous movement. We have made a machine to do this, and I have here an exact reproduction of the picture sequence.

"The scenes you are now going to witness take us back many thousands of years, to the great days of our sister planet. They show a complex civilization, many of whose activities we can only dimly understand. Life seems to have been very violent and energetic, and much that you will see is quite baffling.

"It is clear that the Third Planet was inhabited by a number of different species, none of them reptilian. That is a blow to our pride, but the conclusion is inescapable. The dominant type of life appears to have been a two-armed biped. It walked upright and covered its bodv with some flexible material, possibly for protection against the cold, since even before the Ice Age the planet was at a much lower temperature than our own world. But I will not try your patience any further. You will now see the record of which I have been speaking."

A brilliant light flashed from the projector. There was a gentle whirring, and on the screen appeared hundreds of strange beings moving rather jerkily to and fro. The picture expanded to embrace one of the creatures, and the scientists, could see that the Historian's description had been correct.

The creature possessed two eyes, set rather close together, but the other facial adornments were a little obscure. There was a large orifice in the lower portion of the head that was continually opening and closing. Possibly it had something to do with the creature's breathing.

The scientists watched spellbound as the strange being became involved in a series of fantastic adventures. There was an incredibly violent conflict with another, slightly different creature. It seemed certain that they must both be killed, but when it was all over neither seemed any the worse.

Then came a furious drive over miles of country in a four-wheeled mechanical device which was capable of extraordinary feats of locomotion. The ride ended in a city packed with other vehicles moving in all directions at breath-taking speeds. No one was surprised to see two of the machines meet headon with devastating results.

After that, events became even more complicated. It was now quite obvious that it would take many years of research to analyze

and understand all that was happening. It was also clear that the record was a work of art, somewhat stylized, rather than an exact reproduction of life as it actually had been on the Third Planet.

Most of the scientists felt themselves completely dazed when the sequence of pictures came to an end. There was a final flurry of motion, in which the creature that had been the center of interest became involved in some tremendous but incomprehensible catastrophe. The picture contracted to a circle, centered on the creature's head.

The last scene of all was an expanded view of its face, obviously expressing some powerful emotion. But whether it was rage, grief, defiance, resignation or some other feeling could not be guessed. The picture vanished. For a moment some lettering appeared on the screen, then it was all over.

For several minutes there was complete, silence, save the lapping of the waves upon the sand. The scientists were too stunned to speak. The fleeting glimpse of Earth's civilization had had a shattering effect on their minds. Then little groups began to start talking together, first in whispers and then more and more loudly as the implications of what they had seen became clearer. Presently the Historian called for attention and addressed the meeting again.

"We are now planning," he said, "a vast program of research to extract all available knowledge from this record. Thousands of copies are being made for distribution to all -workers. You will appreciate the problems involved. The psychologists in particular have an immense task confronting them.

"But I do not doubt that we shall succeed. In another generation, who can say what we may not have learned of this wonderful race? Before we leave, let us look again at our remote cousins, whose wisdom may have surpassed our own but of whom so little has survived."

Once more the final picture flashed on the screen, motionless this time, for the projector had been stopped. With something like awe, the scientists gazed at the still figure from the past, while in turn the little biped stared back at them with its characteristic expression of arrogant bad temper.

For the rest of time it would symbolize the human race. The psychologists of Venus would analyze its actions and watch its every movement until they could reconstruct its mind. Thousands of books would be written about it. Intricate philosophies would be contrived to account for its behavior.

But all this labor, all this research, would be utterly in vain. Perhaps the proud and lonely figure on the screen was smiling sardonically at the scientists who were starting on their age-long

fruitless quest.

Its secret would be safe as long as the universe endured, for no one now would ever read the lost language of Earth. Millions of times in the ages to come those last few words would flash across the screen, and none could ever guess their meaning:

A Walt Disney Production

Seeds of the Dusk
by Raymond Z. Gallun

It was a spore, microscopic in size. Its hard shell-resistant to the utter dryness of interplanetary space-harbored a tiny bit of plant protoplasm. That protoplasm, chilled almost to absolute zero, possessed no vital pulsation now-only a grim potentiality, a savage capacity for revival, that was a challenge to Fate itself.

For years the spore had been drifting and bobbing erratically between the paths of Earth and Mars, along with billions of other spores of the same kind. Now the gravity of the Sun drew it a few million miles closer to Earth's orbit, now powerful magnetic radiations from solar vortices forced it back toward the world of its origin.

It seemed entirely a plaything of chance. And, of course, up to a point it was. But back of its erratic, unconscious wanderings, there was intelligence that had done its best to take advantage of the law of averages.

The desire for rebirth and survival was the dominant urge of this intelligence. For this was during the latter days, when Earth itself was showing definite signs of senility, and Mars was near as dead *as* the Moon.

Strange, intricate spore-pods, conceived as a man might conceive a new invention, but put into concrete form by a process of minutely exact growth control, had burst explosively toward a black, spacial sky. In dusty clouds the spores had been hurled upward into the vacuum thinness that had once been an extensive atmosphere. Most of them had, of course, dropped back to the red, arid soil; but a comparative few, buffeted by feeble air currents, and measured numerically in billions, had found their way from the utterly tenuous upper reaches of Mars' gaseous envelope into the empty ether of the void.

With elements of a conscious purpose added, the thing that was taking place was a demonstration of the ancient Ar-rhenius Spore Theory, which, countless ages ago, had explained the propagation of life from world to world.

The huge, wonderful parent growths were left behind, to continue a hopeless fight for survival on a burnt-out world. During succeeding summer seasons they would hurl more spores into the interplanetary abyss. But soon they themselves would be only brown, mummied relics-one with the other relics of Mars; the gray, carven monoliths; the strange, hemispherical dwellings, dotted with openings arranged like the cells of *a* honeycomb. Habitations of an intelligent animal

folk, long perished, who had never had use for halls or rooms, as such things are known to men on Earth.

The era of utter death would come to Mars, when nothing would move on its surface except the shadows shifting across dusty deserts, and the molecules of sand and rock vibrating with a little warmth from the hot, though shrunken Sun. Death-complete death! But the growths which were the last civilized beings of Mars had not originated there. Once they had been on the satellites of Jupiter, too. And before that- well, perhaps even the race memory of their kind had lost the record of those dim, distant ages. Always they had waited their chance, and when the time came-when a world was physically suited for their development-they had acted,

A single spore was enough to supply the desired foothold on a planet. Almost inevitably-since chance is, in fundamentals, a mathematical element depending on time and numbers and repetition-that single spore reached the upper atmosphere of Earth,

For months, it bobbed erratically in tenuous, electrified gases. It might have been shot into space again. Upward and downward it wandered; but with gravity to tug at its insignificant mass, probability favored its ultimate descent to the harsh surface.

It found a resting place, at last, in a frozen desert gully. Around the gully were fantastic, sugar-loaf mounds. Near-by was one thin, ruined spire of blue porcelain-an empty reminder of a gentler era, long gone.

The location thus given to it seemed hardly favorable in its aspect. For this was the northern hemisphere, locked now in the grip of a deadly winter. The air, depleted through the ages, as was the planet's water supply, was arid and thin.

The temperature, though not as rigorous and deadening as that of interplanetary space, ranged far below zero. Mars in this age was near dead; Earth was a dying world.

But perhaps this condition, in itself, was almost favorable. The spore belonged to a kind of life developed to meet the challenge of a generally much less friendly environment than that of even this later-day Earth.

There was snow in that desert gully-maybe a quarter-inch depth of it. The rays of the Sun-white and dwarfed after so many eons of converting its substance into energy- did not melt any of that snow even at noon. But this did not matter. The life principle within the spore detected favorable conditions for its germination, just as, in spring, the vital principle of Earthly seeds had done for almost incalculable ages.

By a process parallel to that of simple fermentation, a tiny amount of heat was generated within the spore. A few crystals of snow

around it turned to moisture, a minute quantity of which the alien speck of life absorbed. Roots finer than spi-derweb grew, groping int amp; the snow. At night they were frozen solid, but during the day they resumed their brave activity.

The spore expanded, but did not burst. For its shell was a protecting armor which must be made to increase in size gradually without rupture. Within it, intricate chemical processes were taking place. Chlorophyl there was absorbing sunshine and carbon dioxide and water. Starch and cellulose and free oxygen were being produced.

So far, these processes were quite like those of common terrestrial flora. But there were differences. For one thing, the oxygen was not liberated to float in the atmosphere. It had been ages since such lavish waste had been possible on Mars, whose thin air had contained but a small quantity of oxygen in its triatomic form, ozone, even when Earth was young.

The alien thing stored its oxygen, compressing the gas into the tiny compartments in its hard, porous, outer shell. The reason was simple. Oxygen, combining with starch in a slow, fermentive combustion, could produce heat to ward off the cold that would otherwise stop growth.

The spore had become a plant now. First, it was no bigger than a pinhead. Then it increased its size to the dimensions of a small marble, its fuzzy, green-brown shape firmly anchored to the soil itself by its long, fibrous roots. Like any terrestrial growth, it was an intricate chemical laboratory, where transformations took place that were not easy to comprehend completely.

And now, perhaps, the thing was beginning to feel the first glimmerings of a consciousness, like a human child rising out of the blurred, unremembering fog of birth. Strange, oily nodules, scattered throughout its tissues, connected by means of a complex network of delicate, white threads, which had the functions of a nervous system, were developing and growing-giving to the sporeplant from Mars the equivalent of a brain. Here was a sentient vegetable in the formative stage.

A sentient vegetable? Without intelligence it is likely that the ancestors of this nameless invader from across the void would long ago have lost their battle for survival.

What senses were given to this strange mind, by means of which it could be aware of its environment? Undoubtedly it possessed faculties of sense that could detect things in a way that was as far beyond ordinary human conception as vision is to those individuals who have been born blind. But in a more simpler manner it must have been able to feel heat and cold and to hear sounds, the latter perhaps by the sensitivity of its fine, cilialike spines. And certainly it could see

in a way comparable to that of a man.

For, scattered over the round body of the plant, and imbedded deep in horny hollows in its shell, were little organs, lensed with a clear vegetable substance. These organs were eyes, developed, perhaps, from far more primitive light-sensitive cells, such as many forms of terrestrial flora possess.

But during those early months, the spore plant saw little that could be interpreted as a threat, swiftly to be fulfilled. Winter ruled, and the native life of this desolate region was at a standstill.

There was little motion except that of keen, cutting winds, shifting dust, and occasional gusts of fine, dry snow. The white, shrunken Sun rose in the east, to creep with protracted slowness across the sky, shedding but the barest trace of warmth. Night came, beautiful and purple and mysterious, yet bleak as the crystalline spirit of an easy death.

Through the ages, Earth's rate of rotation had been much decreased by the tidal drag of Solar and Lunar gravities. The attraction of the Moon was now much increased, since the satellite was nearer to Terra than it had been in former times.

Because of the decreased rate of rotation, the days and nights were correspondingly lengthened.

All the world around the spore plant was a realm of bleak, unpeopled desolation. Only once, while the winter lasted, did anything happen to break the stark monotony. One evening, at moonrise, a slender metal car flew across the sky with the speed of a bullet. A thin propelling streamer of fire trailed in its wake, and the pale moonglow was reflected from its prow. A shrill, mechanical scream made the rarefied atmosphere vibrate, as the craft approached to a point above the desert gully, passed, and hurtled away, to leave behind it only a startling silence and an aching memory.

For the spore plant did remember. Doubtless there was a touch of fear in that memory, for fear is a universal emotion, closely connected with the law of self-preservation, which is engrained in the texture of all life, regardless of its nature or origin.

Men. Or rather, the cold, cruel, cunning little beings who were the children of men. The Itorloo, they called themselves. The invader could not have known their form as yet, or the name of the creatures from which they were descended. But it could guess something of their powers from the flying machine they had built. Inherited memory must have played a part in giving the queer thing from across the void this dim comprehension. On other worlds its ancestors had encountered animal folk possessing a similar science. And the spore plant was surely aware that here on Earth the builders of this speeding craft were its most deadly enemies.

The Itorloo, however, inhabiting their vast underground cities, had no knowledge that their planet had received an alient visitation-one which might have deadly potentialities. And in this failure to know, the little spore plant, hidden in a gully where no Itorloo foot had been set in a thousand years, was safe.

Now there was nothing for it to do but grow and prepare to reproduce its kind, to be watchful for lesser enemies, and to develop its own peculiar powers.

It is not to be supposed that it must always lack, by its very nature, an understanding of physics and chemistry and biological science. It possessed no test tubes, or delicate instruments, as such things were understood by men. But it was gifted with something-call it an introspective sense- which enabled it to study in minute detail every single chemical and physical process that went on within its own substance. It could feel not only the juices coursing sluggishly through its tissues, but it could feel, too, in a kind of atomic pattern, the change of water and carbon dioxide into starch and free oxygen.

Gift a man with the same power that the invader's kind had acquired, perhaps by eons of practice and directed will- that of feeling vividly even the division of cells, and the nature of the protoplasm in his own tissues-and it is not hard to believe that he would soon delve out even the ultimate secret of life. And in the secret of life there must be involved almost every conceivable phase of practical science.

The spore plant proceeded with its marvelous self-education, part of which must have been only recalling to mind the intricate impressions of inherited memories.

Meanwhile it studied carefully its bleak surroundings, prompted not only by fear, but by curiosity as well. To work effectively, it needed understanding of its environment. Intelligence it possessed beyond question; still it was hampered by many limitations. It was a plant, and plants have not an animal's capacity for quick action, either of offense or defense. Here, forever, the entity from across the void was at a vast disadvantage, in this place of pitiless competition. In spite of all its powers, it might now have easily been destroyed.

The delicate, ruined tower of blue porcelain, looming up from the brink of the gully. The invader, scrutinizing it carefully for hours and days, soon knew every chink and crack and fanciful arabesque on its visible side. It was only a ruin, beautiful and mysterious alike by sunshine and moonlight, and when adorned with a fine sifting of snow. But the invader, lost on a strange world, could not be sure of its harmless-ness.

Close to the tower were those rude, high, sugar-loaf mounds, betraying a sinister cast. They were of hard-packed earth, dotted with many tiny openings. But in the cold, arid winter, there was no sign of

life about them now.

All through those long, arctic months, the spore plant continued to develop, and to grow toward the reproductive stage. And it was making preparations too-combining the knowledge acquired by its observations with keen guesswork, and with a science apart from the manual fabrication of metal and other substances,

A milder season came at last. The Sun's rays were a little warmer now. Some of the snow melted, moistening the ground enough to germinate Earthly seeds. Shoots sprang up, soon to develop leaves and grotesque, devilish-looking flowers.

In the mounds beside the blue tower a slow awakening took place. Millions of little, hard, reddish bodies became animated once more, ready to battle grim Nature for sustenance. The ages had done little to the ants, except to increase their fierceness and cunning. Almost any organic substances could serve them as food, and their tastes showed but little discrimination between one dainty and another. And it was inevitable, of course, but presently they should find the spore plant.

Nor were they the letter's only enemies, even in this desert region. Of the others, Kaw and his black-feathered brood were the most potent makers of trouble. Not because they would attempt active offense themselves, but because they were able to spread news far and wide.

Kaw wheeled alone now, high in the sunlight, his ebon wings outstretched, his cruel, observant little eyes studying the desolate terrain below. Buried in the sand, away from the cold, he and his mate and their companions had slept through the winter. Now Kaw was fiercely hungry. He could eat ants if he had to, but there should be better food available at this time of year.

Once, his keen eyes spied gray movement far below. As if his poised and graceful flight was altered by the release of a trigger, Kaw dived plummet-like and silent toward the ground.

His attack was more simple and direct than usual. But it was successful. His reward was a large, long-tailed rodent, as clever as himself. The creature uttered squeaks of terror as meaningful as human cries for help. In a moment, however, Kaw split its intelligently rounded cranium with a determined blow from his strong, pointed beak. Bloody brains were devoured with indelicate gusto, to be followed swiftly by the less tasty flesh of the victim. If Kaw had ever heard of table manners, he didn't bother with them. Kaw was intensely practical.

His crop full, Kaw was now free to exercise the mischievous curiosity which he had inherited from his ancient forebears. They who had, in the long-gone time when Earth was young, uprooted many a

young corn shoot, and had yammered derisively from distant treetops when any irate farmer had gone after them with a gun.

With a clownish skip of his black, scaly feet, and a show-offish swerve of his dusty ebon wings, Kaw took to the air once more. Upward he soared, his white-lidded eyes directed again toward the ground, seeking something interesting to occupy his attention and energies.

Thus, presently, he saw a brownish puff that looked like smoke or dust in the gully beside the ruined blue tower at the pinnacle of which he and his mate were wont to build their nest in summer. Sound came then-*a* dull, ringing pop. The dusty cloud expanded swiftly upward, widening and thinning until its opacity was dissipated into the clearness of the atmosphere.

Kaw was really startled. That this was so was evinced by the fact that he did not voice his harsh, rasping cry, as he would have done had a lesser occurrence caught his attention. He turned back at first, and began to retreat, his mind recognizing only one possibility in what had occurred. Only the Itorloo, the Children of Men, as far as he knew, could produce explosions like that. And the Itorloo were cruel and dangerous.

However, Kaw did not go far in his withdrawal. Presently-since there were no further alarming developments- he was circling back toward the source of the cloud and the noise. But for many minutes he kept what he considered a safe distance, the while he tried to determine the nature of the strange, bulging, grayish-green thing down there in the gully.

A closer approach, he decided finally, was best made from the ground. And so he descended, alighting several hundred yards distant from the narrow pocket in the desert.

Thence he proceeded to walk cautiously forward, taking advantage of the cover of the rocks and dunes, his feathers gleaming with a dusty rainbow sheen, his large head bobbing with the motion of his advance like any fowl's. His manner was part laughably ludicrous, part scared, and part determined.

And then, peering from behind a large boulder, he saw what he had come to see. It was a bulging, slightly flattened sphere, perhaps a yard across. Prom it projected flat, oval things of a gray-green color, like the leaves of a cactus. And from these, in turn, grew clublike protuberances of a hard, horny texture-spore-pods. One of them was blasted open, doubtless by the pressure of gas accumulated within it. These spore-pods were probably not as complexly or powerfully designed as those used by the parent growths on Mars, for they were intended for a simpler purpose. The entire plant bristled with sharp spines, and was furred with slender hairs, gleaming like little silver

wires.

Around the growth, thousands of ant bodies lay dead, and from its vicinity other thousands of living were retreating. Kaw eyed these evidences critically, guessing with wits as keen as those of a man of old their sinister significance. He knew, too, that presently other spore-pods would burst with loud, disturbing noises.

Kaw felt a twinge of dread. Evolution, working through a process of natural selection-and, in these times of hardship and pitiless competition, putting a premium on intelligence- had given to his kind a brain power far transcending that of his ancestors. He could observe, and could interpret his observations with the same practical comprehension which a primitive human being might display. But, like those primitives, he had developed, too, a capacity to feel superstitious awe.

That gray-green thing of mystery had a fantastic cast which failed to identify it with-well-with naturalness. Kaw was no botanist, certainly; still he could recognize the object as a plant of some kind. But those little, bright, eye-lenses suggested an unimaginable scrutiny. And those spines, silvery in sheen, suggested ghoulish animation, the existence of which Kaw could sense as a nameless and menacing unease.

He could guess, then, or imagine-or even know, perhaps-that here was an intruder who might well make itself felt with far-reaching consequences in the future. Kaw was aware of the simple fact that most of the vegetation he was acquainted with grew from seeds or the equivalent. And he was capable of concluding that this flattened spheroid reproduced itself in a manner not markedly unfamiliar. That is, if one was to accept the evidence of the spore-pods. Billions of spores, scattering with the wind! What would be the result?

Kaw would not have been so troubled, were it not for those crumpled thousands of ant bodies, and the enigma of their death. It was clear that the ants had come to feed on the invader-*but* they had perished. How? By some virulent plant poison, perhaps?

The conclusions which intelligence provides can produce fear where fear would otherwise be impossible. Kaw's impulse was to seek safety in instant departure, but horror and curiosity fascinated him. Another deeper, more reasoned urge commanded him. When a man smells smoke in his house at night, he does not run away; he investigates. And so it was with Kaw.

He hopped forward cautiously toward the invader. A foot from its rough, curving side he halted. There, warily, as if about to attack a poisonous lizard, he steeled himself. Lightly and swiftly his beak shot forward. It touched the tip of a sharp spine.

The result left Kaw dazed. It was as though he had received a

stunning blow on the head, A tingling, constricting sensation shot through his body, and he was down, flopping in the dust.

Electricity. Kaw had never heard of such a thing. Electricity generated chemically in the form of the invader, by a process analogous to that by which, in dim antiquity, it had been generated in the bodies of electric eels and other similar creatures.

However, there was a broad difference here between the subject and the analogy. Electric eels had never understood the nature of their power, for they were as unresponsible for it as they were unresponsible for the shape of the flesh in which they had been cast. The spore plant, on the other hand, comprehended minutely. Its electric organs had been minutely preplanned and conceived before one living cell of their structure had been caused to grow on another. And these organs were not inherited, but were designed to meet the more immediate needs of self-protection. During the winter, the invader, studying its surroundings, had guessed well.

Slowly Kaw's brain cleared. He heard an ominous buzzing, and knew that it issued from the plant. But what he did not know was that, like the electric organs, the thing's vocal equipment was invented for possible use in its new environment. For days, since the coming of spring, the invader had been listening to sounds of various kinds, and had recognized their importance on Earth.

Now Kaw had but one thought, and that was to get away. Still dazed and groggy, he leaped into the air. From behind him, in his hurried departure, he heard a dull plop. More billions of spores, mixing with the wind, to be borne far and wide.

But now, out of his excitement, Kaw drew a reasoned and fairly definite purpose. He had a fair idea of what he was going to do, even though the course of action he had in mind might involve him with the greatest of his enemies. Yet, when it came to a choice, he would take the known in preference to the unknown.

He soared upward toward the bright blue of the heavens. The porcelain tower, the ant hills, and the low mounds which marked the entrances to the rodent colonies slipped swiftly behind. As if the whole drab landscape were made to move on an endless belt.

Kaw was looking for his mate, and for the thirty-odd, black-winged individuals who formed his tribe. Singly and in small groups, he contacted and collected them. Loud, raucous cries, each with a definite verbal meaning, were exchanged. Menace was on the Earth-bizarre, nameless menace. Excitement grew to fever pitch.

Dusk, beautiful and soft and forbidding, found the bird clan assembled in a chamber high-placed in a tremendous edifice many miles from where Kaw had made his discovery. The building belonged to the same gentle culture which had produced the blue porcelain

tower. The floor of the chamber was doubtless richly mosaicked. But these were relics of departed splendor now thickly masked with dust and filth.

From the walls, however, painted landscapes of ethereal beauty, and the faces of a happy humankind of long ago peeped through the gathering shadows. They were like ghosts, a little awed at what had happened to the world to which they had once belonged. Those gentle folk had dwelt in a kindlier climate which was now stripped forever from the face of the Earth. And they had been wiped out by creatures who were human too, but of a different, crueler race.

Through delicately carven screens of pierced marble, far up on the sides of the chamber's vast, brooding rotunda, the fading light of day gleamed, like a rose glow through the lacework of fairies.

But this palace of old, dedicated to laughter and fun and luxury, and to the soaring dreams of the fine arts, was now only a chill, dusty gathering place for a clan of black-winged, gruesome harpies.

They chuckled and chattered and cawed, like the crows of dead eras. But these sounds, echoing eerily beneath cloistered arches, dim and abhorrent in the advancing gloom of night, differed from that antique yammering. It constituted real, intelligent conversation.

Kaw, perched high on a fancifully wrought railing of bronze, green with the patina of age, urged his companions with loud cries, and with soft, pleading notes, In his own way, he had some of the qualities of a master orator. But, as all through an afternoon of similar arguing, he was getting nowhere. His tribe was afraid. And so it was becoming more and more apparent that he must undertake his mission alone. Even Teka, his mate, would not accompany him.

At last Kaw ruffled his neck feathers, and shook his head violently in an avian gesture of disgust. He leaped from his perch and shot through a glassless window with an angry scream that was like the curse of a black ghoul.

It was the first time that he had ever undertaken a long journey at night. But in his own judgment, necessity was such that no delay could be tolerated.

The stars were sharp and clear, the air chill and frosty. The ground was dotted sparsely with faint glimmerings from the chimneys of the crude furnaces which, during the colder nights of spring and fall, warmed the underground rodent colonies.

After a time the Moon rose, huge and yellow, like the eye of a monster. In that bloom and silence, Kaw found it easy to feel the creeping and imperceptible, yet avalanching, growth of horror. He could not be sure, of course, that he was right in his guess that the mission he had undertaken was grimly important. But his savage intuition was keen.

The Itorloo-the Children of Men-he must see them, and tell them what he knew. Kaw was aware that the Itorioo had no love for any but themselves. But they were more powerful than the winds and the movements of the Sun and Moon themselves. They would find a swift means to defeat the silent danger.

And so, till the gray dawn, Kaw flew on and on, covering many hundreds of miles, until he saw a low dome of metal, capping a hill. The soft half-light of early morning sharpened its outlines to those of a beautiful, ebon silhouette, peaceful and yet forbidding. Beneath it, as Kaw knew, was a shaft leading down to the wondrous underworld of the Itorloo, as intriguing to his mind as a shadowland of magic.

Fear tightened its constricting web around Kaw's heart- but retreat was something that must not be. There was too much at stake ever to permit a moment of hesitation.

Kaw swung into a wider arc, circling the dome. His long wings, delicately poised for a soaring glide, did not flap now, but dipped and rose to capture and make use of the lifting power of every vagrant wisp of breeze. And from his lungs, issued a loud, raucous cry.

"Itorloo!" he screamed. "Itorloo!"

The word, except for its odd, parrot-like intonation, was pronounced in an entirely human manner. Kaw, in common with his crow ancestors, possessed an aptitude for mimicry of the speech of men.

Tensely he waited for a sign, as he swung lower and nearer to the dome.

Zar felt irritable. He did not like the lonely surface vigil and the routine astronomical checkings that constituted his duty. All night he'd sat there at his desk with signal lights winking around him, helping surface watchers at the other stations check the position of a new meteor swarm by means of crossing beams of probe rays.

Angles, distances, numbers! Zar was disgusted. Why didn't the construction crews hurry? The whole race could have been moved to Venus long ago, and might just as well have been. For as far as Zar could see, there was no real reason to retain a hold on the burnt-out Earth. The native Venusians should have been crushed a century back. There wasn't any reason why this pleasant task shouldn't have been accomplished then-no reason except stupid, official inertia!

The sound of a shrill bird cry, throbbing from the pickup diaphragm on the wall, did not add any sweetening potion to Zar's humor. At first he paid no attention; but the insistent screaming of the name of his kind-"Itorloo! Itorloo!"-at length aroused him to angry action.

His broad, withered face, brown and hideous and goblin-like,

twisted itself into an ugly grimace. He bounded up from his chair, and seized a small, pistol-like weapon.

A moment later he was out on the sandy slopes of the hill, looking up at the black shape that swooped and darted timidly, close to his head. On impulse Zar raised his weapon, no thought of compassion in his mind.

But Raw screamed again: "Itorloo! Loaaah!"

In Zar's language, "Loaaah!" meant "Danger!" very emphatically, Zar's hand, bent on execution, was stayed for the moment at least. His shrewd little eyes narrowed, and from his lips there issued yammering sounds which constituted an understandable travesty of the speech of Kaw's kind.

"Speak your own tongue, creature!" he ordered sharply, "I can understand!"

Still swooping and darting nervously, Kaw screamed forth his story, describing in quaint manner the thing he had seen, employing comparisons such as any primitive savage would use. In this way the invader was like a boulder, in that way it was like a thorn cactus, and in other ways it resembled the instruments of death which the Itorioo employed. In all ways it was strange, and unlike anything ever seen before.

And Zar Listened with fresh and calculated attention, getting from this bird creature the information he required to locate the strange miracle. Kaw was accurate and clear enough in giving his directions.

Zar might have forgotten his inherent ruthlessness where his feathered informer was concerned, had not Kaw become a trifle too insistent in his exhortations to action. He lingered too long and screamed too loudly.

Irritated, Zar raised his weapon. Kaw swept away at once, but there was no chance for him to get out of range. Invisible energy shot toward him. Black feathers were torn loose, and floated aflame in the morning breeze. Kaw gave a shrill shriek of agony and reproach. Erratically he wavered to the ground.

Zar did not even glance toward him, but retraced his way leisurely into the surface dome. An hour later, however, having received permission from his superiors, he had journeyed across those hundreds of miles to the gully beside the blue porcelain tower. And there he bent over the form of the invader. Zar was somewhat awed. He had never been to Mars. For two hundred thousand years or more, no creature from Earth had ever visited that planet. The Itorloo were too practical to attempt such a useless venture, and their more recent predecessors had lacked some of the adventurous incentive required for so great and hazardous a journey.

But Zar had perused old records, belonging to an era half a

million years gone by. He knew that this gray-green thing was at least like the flora of ancient Mars. Into his mind, matter-of-fact for the most part, came the glimmerings of *a* mighty romance, accentuating within him a consciousness of nameless dread, and of grand interplanetary distances.

Spines. Bulging, hard-shelled, pulpy leaves that stored oxygen under pressure. Chlorophyl that absorbed sunshine and made starch, just as in an ordinary Earthly plant. Only the ehlorophyl of this growth was beneath a thick, translucent shell, which altered the quality of the light it could reflect. That was why astronomers in the pre-interplanetary era had doubted the existence of vegetation on Mars. Green plants of Terra, when photographed with infrared light, looked silvery, like things of frost. But-because of their shells-Martian vegetation could not betray its presence in the same manner.

Zar shuddered, though the morning air was not chill by his standards. The little gleaming orbs of the invader seemed to scrutinize him critically and coldly, and with a vast wisdom. Zar saw the shattered spore-pods, knowing that their contents now floated in the air, like dust-floated and settled-presenting a subtle menace whose tool was the unexpected, and against which-because of the myriad numbers of the widely scattered spores-only the most drastic methods could prevail.

Belatedly, then, anger came. Zar drew a knife from his belt. Half in fury and half in experiment, he struck the invader, chipping off a piece of its shell. He felt a sharp electric shock, though by no means strong enough to kill a creature of his size. From the wound he made in the plant, oxygen sizzled softly. But the invader offered no further defense. For the present it had reached the end of its resources.

Zar bounded back. His devilish little weapon flamed then, for a full two minutes. When he finally released pressure on its trigger, there was only a great, smouldering, glowing hole in the ground where the ghoulish thing from across space had stood.

Such was Zar's and the entire Itorloo race's answer to the intruder. Swift destruction! Zar chuckled wickedly. And there were ways to rid Earth of the treacherous menace of the plant intelligences of Mars entirely, even though they would take time.

Besides there was Venus, the world of promise. Soon half of the Itorloo race would be transported there. The others certainly could be accommodated if it became necessary.

* * *

Necessary? Zar laughed. He must be getting jittery. What had the Itorloo to fear from those inert, vegetable things? Now he aimed his weapon toward the blue tower, and squeezed the trigger. Weakened tiles crumbled and fell down with a hollow, desolate rattle that seemed to mock Zar's ruth-lessness.

Suddenly he felt sheepish. To every intelligent being there is a finer side that prompts and criticizes. And for a moment Zar saw himself and his people a little more as they really were.

Unlike the lesser creatures, the Children of Men had not advanced very much mentally. The ups and downs of history had not favored them. War had reversed the benefits of natural selection, destroying those individuals of the species best suited to carry it on to greater glory. Zar knew this, and perhaps his senseless assault upon the ruined building was but a subconscious gesture of resentment toward the people of long ago who had been kinder and wiser and happier.

Zar regretted his recent act of destroying the spore plant. It should have been preserved for study. But now-well- what was done could not be changed.

He entered his swift, gleaming rocket car. When he closed its cabin door behind him, it seemed that he was shutting out a horde of mocking, menacing ghosts.

In a short while he was back at the surface station. Relieved there of his duty by another little brown man, he descended the huge cylindrical shaft which dropped a mile to the region that was like the realm of the Cyclops. Thrumming sounds, winking lights, shrill shouts of the workers, blasts of incandescent flame, and the colossal majesty of gigantic machines, toiling tirelessly.

In a vast, pillared plaza the keels of spaceships were being laid-spaceships for the migration and the conquest. In perhaps a year-a brief enough time for so enormous a task- they would soar away from Earth, armed to the teeth. There would be thousands of the craft then, for all over the world, in dozens of similar underground places, they were in process of construction.

Zar's vague fears were dissipated in thoughts of conquest to come. The Venus folk annihilated in withering clouds of flame. The glory of the Itorloo carried on and on-

Kaw was not dead. That this was so was almost a miracle, made possible, perhaps, by a savage, indomitable will to live. In his small bird body there was a fierce, burning courage that compensated for many of his faults.

For hours he lay there on the desert sand, a pathetic and crumpled bundle of tattered feathers, motionless except for his labored breathing, and the blinking of his hate-filled eyes. Blood

dripped slowly from the hideous, seared wound on his breast, and his whole body ached with a vast, dull anguish.

Toward sundown, however, he managed to hobble and flutter forward a few rods. Here he buried himself shallowly in the sand, where his chilled body would be protected from the nocturnal cold.

For three days he remained thus interred. He was too weak and sick to leave his burrow. Bitterness toward Zar and the other cruel Itorloo, he did not feel. Kaw had lived too long in this harsh region to expect favors. But a black fury stormed within him, nevertheless-a black fury as agonizing as physical pain. He wanted revenge. No, he needed revenge as much as he needed the breath of life. He did not know that Itorloo plans directed against the intruding spores from Mars were already under way, and that-as a by-product-they would destroy his own kind, and all primitive life on the surface of the Earth.

Kaw left his hiding place on the fourth- day. Luck favored him, for he found a bit of carrion-part of the dead body of an antelopelike creature.

Somehow, through succeeding weeks and days, he managed to keep alive. The mending of his injured flesh was slow indeed, for the burnt wound was unclean. But he started toward home, hopping along at first, then flying a little, a hundred yards at a time, Tedium and pain were endless. But the fiendish light of what must seem forever fruitless hatred, never faded in those wicked, white-lidded eyes. Frequently Kaw's long, black beak snapped in a vicious expression of boundless determination.

Weeks of long days become a month, and then two months. Starved to a black-clad skeleton, and hopeless of ever being fit to hunt again, Kaw tottered into a deep gorge one evening. Utterly spent, he sank to the ground here, his brain far too weary to take note of any subtle unusualness which the deepening shadows half masked.

He scarcely saw the rounded things scattered here. Had he noticed them, his blurred vision would have named them small boulders and nothing more. Fury, directed at the Itor-loo, had made him almost forget the spore plants. He did not know that this was to be a place of magic, Chance and the vagrant winds had made it so. *A* hundred spores, out of many millions, had lodged here. Conditions had been just right for their swift development. It was warm, but not too warm. And there was moisture too. Distantly Kaw heard the trickle of water. He wanted to get to it, but his feebleness prevented him.

He must have slept, then, for a long time, It seemed that he awoke at the sound of an odd buzzing, which may have possessed hypnotic properties. He felt as weak and stiff as before, but he was soothed and peaceful now, in spite of his thirst and hunger.

He looked about. The gorge was deep and shadowy. A still twilight pervaded it, though sunshine gilded its bulging, irregular lips far above. These details he took in in a moment.

He looked, then, at the grotesque shapes around him- things which, in the deeper darkness, he had thought to be only boulders. But now he saw that they were spore plants, rough, eerie, brooding, with their little, lensed light-sensitive organs agleam.

The excitement of terror seized him, and he wanted to flee, as from a deadly enemy. But this urge did not last long. The hypnotic buzz, which issued from the diaphragmic vocal organs of the plants, soothed and soothed and soothed, until Kaw felt very relaxed.

There were dead ants around him, doubtless the victims of electrocution. Since no better food was within reach, Kaw hopped here and there, eating greedily.

After that he hobbled to the brackish spring that dripped from the wall, and drank. Next he dropped to the ground, his fresh drowsiness characterized by sleepy mutterings about himself, his people, and the all-wise Itorloo, And it seemed, presently, that the buzzing of the invaders changed in character at last, seeming to repeat his own mutterings clumsily, like a child learning to talk.

"Kaw! Itorloo!" And other words and phrases belonging to the speech of the crow clans.

It was the beginning of things miraculous and wonderful for Kaw, the black-feathered rascal. Many suns rose and set, but somehow he felt no urge to wander farther toward his home region. He did not know the Lethean fascination of simple hypnotism. True, he sallied afield farther and farther, as his increasing strength permitted. He hunted now, eating bugs and beetles for the most part. But always he returned to the gorge, there to listen to the weird growths, buzzing, chattering, speaking to him in his own tongue. In them there seemed somehow to be a vague suggestion of the benignance of some strange, universal justice, in spite of their horror.

And night and day, rocket cars, streamlined and gleaming, swept over the desert. Now and then beams of energy were unleashed from them, whipping the sand into hot flame, destroying the invading spore plants that had struck root here and there. Only the law of chance kept them away from the gorge, as doubtless it allowed them to miss other hiding places of alien life. For the wilderness was wide.

But this phase of the Itorloo battle against the invading spore plants was only a makeshift preliminary, intended to keep the intruders in check. Only the Itorloo themselves knew about the generators now being constructed far underground-generators which, with unseen emanations, could wipe out every speck of living protoplasm on the exposed crust of the planet. Theirs was a

monumental task, and a slow one. But they meant to be rid, once and for all, of the subtle threat which had come perhaps to challenge their dominion of the Earth. Kaw and his kind, the rodents, the ants, and all the other simple People of the Dusk of Terra's Greatness, were seemingly doomed.

Kaw's hatred of the Children of Men was undimmed, more justly than he was aware. Thus it was easy for him to listen when he was commanded: "Get an Itorloo! Bring him here! Alone! On foot!"

Zar was the logical individual to produce, for he was the nearest, the most readily available. But summer was almost gone before Kaw encountered the right opportunity, though he watched with care at all times.

Evening, with Venus and the Moon glowing softly in the sky. Kaw was perched on a hilltop, close to the great surface dome, watching as he had often watched before. Out of its cylindrical hangar, Zar's flier darted, and then swung in a slow arc. Presently it headed at a leisurely pace into the northwest. For once its direction was right, and it was not traveling too fast for Kaw to keep pace with it. Clearly its pilot was engaged in a rambling pleasure jaunt, which had no definite objective,

Kaw, pleased and excited, fell in behind at a safe distance. There he remained until the craft was near the gorge. Now there was danger, but if things were done right-

He flapped his wings violently to catch up with his mechanical quarry. He screamed loudly: "Itorloo! Itorloo! Descend! Descend! I am Kaw, who informed you of the unknowns long ago! I would show you more! More! More!" All this in ahrill, avian chatterings.

Kaw's trickery was naively simple. But Zar heard, above the noise of his rocket blasts. Suspicion? He felt it, of course. There was no creature in this era who accepted such an invitation without question. Yet he was well armed. In his own judgment he should be quite safe. Curiosity led him on.

He shut off his rocket motors, and uttered the bird jargon, questioning irritably: "Where? What is it, black trickster?"

Kaw skittered about defensively. "Descend!'" he repeated. "Descend to the ground. The thing that bears you cannot take you where we must go!"

The argument continued for some little time, primitive with matching curiosity and suspicion.

And meanwhile, in the gloomy gorge cut in vague geologic times by some gushing stream, entities waited patiently. Sap flowed in their tissues, as in the tissues of any other vegetation, but the fine hairs on their forms detected sounds, and their light-sensitive cells served as eyes. Within their forms were organs equivalent to human nerve and

brain. They did not use tools or metals, but worked in another way, dictated by their vast disadvantages when compared to animal intelligences. Yet they had their advantages, too.

Now they waited, dim as bulking shadows. They detected the excited cries of Kaw, who was their instrument. And perhaps they grew a little more tense, like a hunter in a blind, when he hears the quacking of ducks through a fog.

There was a grating of pebbles and a little brown man, clad in a silvery tunic, stepped cautiously into view. There was a weapon clutched in his slender hand. He paused, as if suddenly awed and fearful. But no opportunity to retreat was given him.

* * *

A spore-pod exploded with a loud plop in the confined space. A mass of living dust filled the gorge, like a dense, opaque cloud, choking, blinding. Zar squeezed the trigger of his weapon impulsively. Several of the invaders were blasted out of existence. Stones clattered down from where the unaimed beam of energy struck the wall.

Panic seized the little man, causing him to take one strangling breath. In a few moments he was down, writhing helpless on the ground. Choked by the finely divided stuff, his consciousness seemed to drop into a black hole of infinity. He, Zar, seemed about to pay for his misdeeds. With a mad fury he heard the derisive screams of Kaw, who had tricked him. But he could not curse in return, and presently his thoughts vanished away to nothing.

Awareness of being alive came back to him very slowly and painfully. At first he felt as though he had pneumonia- fever, suffocation, utter vagueness of mind. Had the spores germinated within his lungs, he would surely have died. But they did not, there; conditions, were too moist and warm for them. Gradually he coughed them up.

He felt cold with a bitter, aching chill, for the weather had changed with the lateness of the season. Fine snow sifted down into the gorge from clouds that were thin and pearly and sun-gilded. Each tiny crystal of ice glittered with a thousand prismatic hues as it slowly descended. And the silence was deathly, bearing a burden of almost tangible desolation. In that burden there seemed to crowd all the antique history of a world-history whose grand movement shaded gradually toward stark, eternal death.

Zar wanted to flee this awful place that had become like part of

another planet. He jerked his body as if to scramble feebly to his feet. He found then that he was restrained by cordlike tendrils, hard as horn, and warm with a faint, fer-mentive, animal-like heat. Like the beat of a nameless pulse, tiny shocks of electricity tingled his flesh in a regular rhythm.

It was clear to Zar that while he had been inert the tendrils had fastened themselves slowly around him, in a way that was half like the closing of an ancient Venus Flytrap, carnivorous plant of old, and half like the simple creeping of a vine on a wall.

Those constricting bonds were tightening now. Zar could feel the tiny thorns with which they were equipped biting into his flesh. He screamed in horror and pain. His cries echoed hollowly in the cold gorge. The snow, slowly sifting, and the silence, both seemed to mock-by their calm, pitiless lack of concern-the plight in which he found himself.

And then a voice, chattering faintly in the language of Kaw the Crow: "Be still. Peace. Peace. Peace. Peace. Peace-"

Gradually the sleepy tone quieted Zar, even though he was aware that whatever the invaders might do to him could bring him no good.

Plants with voices. Almost human voices! Some sort of tympanic organs, hidden, perhaps, in some of those pulpy leaves, Zar judged. From the records of the old explanations of Mars, he knew a little about these intruders, and their scheme of life. Organs, with the functions of mechanical contrivances, conceived and grown as they were needed! An alien science, adapted to the abilities and limitations of vegetative intelligences-intelligences that had never controlled the mining and smelting and shaping of metal!

Zar, tight in the clutch of those weird monstrosities, realized some of their power. Strangely it did not affect the hypnotic calm that wrapped him.

Mars. These wondrous people of the dusk of worlds had survived all animal life on the Red Planet. They had spanned Mars in a vast, irregularly formed network, growing along dry river beds, and the arms of vanished seas. They had not been mere individuals, for they had cooperated to form a civilization of a weird, bizarre sort. Great, hollow roots, buried beneath the ground, had drawn water from melting polar snows. Those roots had been like water conduits. A rhythmic pulsation within them had pumped the water across thousands of miles of desert, providing each plant along the way with moisture, even on that dying and almost dehydrated world. The canals of Mars! Yes, a great irrigation system, a great engineering feat-but out of the scope of Itorloo methods entirely.

And through the Jiving texture of those immense joining roots, too, had doubtless flown the impulses of thoughts and commands-the

essence of leadership and security. Even now, when Mars was. all but dead, its final civilization must still be trying to fight on.

Strange, wonderful times those old explorers had seen. Cold sunlight on bizarre ruins, left by extinct animal folk. Thin air and arctic weather, worse than that of Earth in the present age. Death everywhere, except for those vegetative beings grouped in immense, spiny, ribbonlike stretches. Dim shapes at night under hurtling Phobos, the nearer moon, and Deimos, her leisurely sister. Zar did not know just how it had happened, but he had heard that only a few of those human adventurers had escaped from the people of Mars with their lives.

Zar's thought rambled on in a detached way that was odd for him. Perhaps Nature had a plan that she used over and over again. On Terra the great reptiles of the Mesozoic period had died out to be replaced by mammals. Men and the Children of Men had become supreme at last.

Succession after succession, according to some well-ordered scheme? In the desolate quiet of falling snow, tempered only by the muted murmur of the frigid wind, it was easy for Zar to fall prey to such a concept, particularly since he was held powerless in the grasp of the invaders. Tendrils, thorny, stinging tendrils, which must have been grown purposely to receive an Itorloo captive! Zar could realize, then, a little of the fantastic introspective sense which gave these beings a direct contact with the physical secrets of their forms. And in consequence a knowledge of chemistry and biology that was clearer than anything that an Itorloo might be expected to attain along similar lines.

Zar wanted to shriek, but his awe and his weakness strangled him beyond more than the utterance of a gasping sigh.

Then the mighty spirit of his kind reasserted itself. Zar was aware that most probably he himself would presently perish; but the Itorloo, his kind, his real concern, could never lose! Not with all the mighty forces at their command! To suppose that they could be defeated by the sluggish intruders was against reason! In a matter of months-when the preparations for the vast purification process had been completed-Earth would be free of those intruders once more, Zar's brown face contracted into a leer of defiance that had a touch of real greatness. Brutality, force, cunning, and the capacity for quick action-those were the tools of the Itorloo, but they had strength too. Zar was no fool-no short-sighted individual who leaps to hasty, optimistic conclusions-but in a contest between the Itorloo and the invaders there could be but a single outcome by any standard within Zar's reach.

In this belief, he was comforted, and his luck, presently, after long hours of suffering, seemed far better than he had any reason to hope

for. The hard, thorny tendrils unquestionably were relaxing from about him a very little. He could not guess why, and in consequence he suspected subtle treachery, But he could find no reason to suppose that some hidden motive was responsible.

All his avid energies were concentrated, now, on escape. He concluded that perhaps the cold had forced the slight vegetable relaxation, and he proceeded to make the best possible use of his chances. Some time daring the night his straining hands reached the hilt of his knife. Not long afterward Zar clutched his blast gun.

Zar limped stiffly to his flier, cursing luridly; while behind him in the gorge, red firelight flickered, and wisps of smoke lanced into the frigid wind.

Zar wished that Kaw was somewhere in sight, to receive his wrath too. The ebon rascal had vanished.

Winter deepened during succeeding days. The Itorloo in their buried cities felt none of its rigors, however.

Zar had submitted to a physical examination after his weird adventure, and had been pronounced fit. And of all his people he seemed to toil the most conscientiously.

The Venus project. Soon the Children of Men would be masters of that youthful, sunward planet. The green plains and jungles, and the blue skies of Venus. Soon! Soon! Soon! Zar was full of dreams of adventure and brutal pleasure.

Periodically the rocket craft of the Itorloo sallied forth from the cities to stamp out the fresh growth of the invaders. The oxygen-impregnated substance of their forms flamed in desert gullies, and along the rims of shrivelled salt seas, where the spore plants were trying to renew their civilization. Most of them did not get a chance, even, to approach maturity. But because even one mature survivor could pollute the Earth with billions of spores, impossible to destroy otherwise, the purification process must be carried through.

Spring again, and then midsummer. The spaceships were almost ready to leap Venus-ward on the great adventure. The generators, meant to spread life-destroying emanations over the crust and atmosphere above, stood finished and gleaming in the white-domed caverns that housed them.

Zar looked at the magnificent, glittering array in the spaceship construction chamber of his native community with pride and satisfaction.

"Tomorrow," he said to a companion, a fierce light in his eyes.

The othgr nodded, the white glare of the atomic welding furnaces lighting up his features, and betraying there a wolf-ish grin of pleasure.

"Tomorrow," Zar repeated, an odd sort of vagueness in his tone.

Kaw had long ago rejoined his tribe. Life, during those recent months, had been little different from what had been usual in the crow clans for thousands of years. For purposes of safety, Kaw had led his flock into a desert fastness where patrolling Itorloo fliers were seldom seen, and where only a few spore plants had yet appeared.

His first intimation that all was not well was a haunting feeling of unease, which came upon him quite suddenly one day just before noon. His body burned and prickled uncomfortably, and he felt restless. Other than these dim evidences, there was nothing to betray the invisible hand of death.

Emanations, originating in the generators of the Itorloo, far underground. But Kaw was no physicist. He knew only that he and his fellows were vaguely disturbed.

With Teka, his mate, and several of their companions, he soared high into the sky. There, for a time, he felt better. Far overhead, near the Sun's bright disc, he glimpsed the incandescent streamers of Itorloo vessels, distant in space. And preseritly, with little attention, he saw those vessels-there were five in the group-turn back toward Earth.

The advance in the strength of the deadly emanations was slow. Vast masses of rock, covering the upper crust of the planet in a thin shell, had to develop a kind of resonance to them before they could reach their maximum power.

By nightfall Kaw felt only slightly more uncomfortable. By the following dawn, however, he was definitely droopy and listless. The gradual, worldwide process of purification advanced, directed at the invaders, but promising destruction to the less favored native life of Earth, too.

Four days. Huddled in a pathetic group in a ruined structure of antiquity, Kaw's tribe waited. Their features were dull and ruffled, and they shivered as if with cold. Some of them uttered low, sleepy twitterings of anguish.

That evening Kaw watched the pale Moon rise from a battered window embrasure. He was too weak to stand, but rested slumped forward on his breast. His eyes were rheumy and heavy-lidded, but they still held a savage glitter of defiance, which perhaps would burn in them even after they had ceased to live and see. And Raw's clouded mind could still hazard a guess as to the identity of the author of his woes. Brave but impotent, he could still scream a hoarse challenge inspired by a courage as deathless as the ages. "Itorloo! Itorloo!-"

Some time before the first group of spaceships, headed for Venus, had been recalled to Earth, Zar, assigned to the second group, which had not yet entered the launching tubes, had collapsed against his

instrument panels.

His affliction had come with a suddenness that was utterly abrupt. Recovering from his swoon, he found himself lying on a narrow pallet in the hospital quarters of the city. His vision was swimming and fogged, and he felt hot and cold by turns.

But he could see the silvery tunic'd figure of the physician standing close to him.

"What is wrong?" he stammered. "What is it that has happened to me? A short time ago I was well!"

"Much is wrong," the physician returned quietly. "And you have not really been well for a long time. A germ disease-a type of thing which we thought our sanitation had stamped out millenniums ago-has been ravaging your brain and nerves for months! Only its insidiousness prevented it from being discovered earlier. During its incipient stages the poisons of it seem actually to stimulate mental and physical activity, giving a treacherous impression of robust health. And we know, certainly, that this disease is extremely contagious. It does not reveal itself easily, but I and others have examined many apparently healthy individuals with great care. In each there is the telltale evidence that the disease is not only present, but far advanced. Hundreds have collapsed as you have. More, surely, will follow. It is my belief that the entire race has been afflicted. And the plague has a fatal look. Panic has broken out. There is a threatened failure of power and food supplies. Perhaps an antitoxin can be found-but there is so little time."

Half delirious, Zar could still grasp the meaning of the physician's words, and could understand the origin of the disease.

He began to mutter with seeming incoherence: "The changing Earth. Reptiles. Mammals. Men- Succession Nature-"

His voice took on a fiercer tone. "Fight, Itorloo!" he screamed. "Fight!"

Cruel he was, as were all his people, but he had pluck. Suddenly he arose to a sitting posture on his bed His eyes flamed. If his act represented the final dramatic gesture of all the hoary race of man, still it was magnificent. Nor were any tears to be shed, for extinction meant only a task completed.

"Fight!" he shouted again, as if addressing a limitless multitude. "Fight, Itorloo! Study! Learn! Work! It is the only hope! Keep power flowing in the purification generators if you can. The old records of the explorations of Mars-those plants! Their approach to problems is different from our own. No metals. No machines as we know them. But in hidden compartments in their tissues it was easy for them to create the bacteria of death! They *invented* those bacteria, and grew them, breaking them away from their own substance. Some way,

when I was a captive, I was infected. The thorns on the tendrils that held me! I was the carrier! Find an antitoxin to fight the plague, Itorloo! Work-"

One year. Two. Three. The sunshine was brilliant, the air almost warm. The rusty desert hills in the distance were the same. Ancient ruins brooded in the stillness, as they had for so long. On the slopes ant hordes were busy. Rodent colonies showed similar evidence of population. In the sky, Kaw and his companions wheeled and turned lazily.

This was the same Earth, with several changes. Bulbous, spiny things peopled the gorges, and were probing out across the desert, slowly building-with hollow, connecting roots- the water pipes of a tremendous irrigation system. Like that of Mars, and like that of Ganymede, moon of Jupiter, in former ages. Saline remnants of seas and polar snows could alike provide the needed moisture.

Thoughts traveled swiftly along connecting roots. Little orbs and wicked spines gleamed. The invaders were at peace now. Only the Itorloo could have threatened their massed might. There was no danger in the lesser native life.

The subterranean cities of the former rulers of Earth were inhabited only by corpses and by intruding ants, who, like the other fauna of this planet, were immune to the plague, which had been directed and designed for the Itorloo alone. The last race of men was now one with the reptiles of the Mesozoic. But all was peace.

Kaw screamed put his contentment in loud, lazy cries, as he circled in the clear air. He seldom thought of the past any more. If the new masters were not truly benignant, they were indifferent. They left him alone. Kaw, creature of Earth's dusk, was happy.

The great surface dome where Zar, the Itorloo, had once kept watch, was already surrounded by crowded growths. The plants had achieved a great, but an empty, victory. For Earth was a dying planet. Within the dome an astronomical telescope gleamed dully, collecting dust. Often Zar had directed it toward Venus, goal of shattered Itorloo dreams.

But who knew? Out of the void to Ganymede the invaders had come. Across space to Mars. Riding light to Earth. Perhaps when the time came-when Venus was growing old-

Dark Benediction
by Walter M. Miller, Jr,

Always fearful of being set upon during the night, Paul slept uneasily despite his weariness from the long trek southward. When dawn broke, he rolled out of his blankets and found himself still stiff with fatigue. He kicked dirt over the remains of the campfire and breakfasted on a tough forequarter of cold boiled rabbit which he washed down with a swallow of earthy-tasting ditchwater. Then he buckled the cartridge belt about his waist, leaped the ditch, and climbed the embankment to the trafficless four-lane highway whose pavement was scattered with blown leaves and unsightly debris dropped by a long-departed throng of refugees whose only wish had been to escape from one another. Paul, with characteristic independence, had decided to go where the crowds had been the thickest-to the cities-on the theory that they would now be deserted, and therefore noncontagious.

The fog lay heavy over the silent land, and for a moment he paused groping for cognizance of direction. Then he saw the stalled car on the opposite shoulder of the road-a late model convertible, but rusted, flat-tired, with last.year's license plates, and most certainly out of fuel. It obviously had been deserted by its owner during the exodus, and he trusted in its northward heading as he would have trusted the reading of a compass. He turned right and moved south on the empty highway. Somewhere just ahead in the gray vapor lay the outskirts of Houston. He had seen the high skyline before the setting of yesterday's sun, and knew that his journey would soon be drawing to *a* close.

Occasionally he passed *a* deserted cottage or a burned-out roadside tavern, but he did not pause to scrounge for food. The exodus would have stripped such buildings clean. Pickings should be better in the heart of the metropolitan area, he thought-where the hysteria had swept humanity away quickly.

Suddenly Paul froze on the highway, listening to the fog. Footsteps in the distance-footsteps and a voice singing an absent-minded ditty to itself. No other sounds penetrated the sepulchral silence which once had growled with the life of a great city. Anxiety caught him with clammy hands. An old man's voice it was, crackling and tuneless. Paul groped for his holster and brought out the revolver he had taken from a deserted police station.

"Stop where you are, dermie!" he bellowed at the fog. "I'm armed."

The footsteps and the singing stopped. Paul strained his eyes to penetrate the swirling mist-shroud. After a moment, the oldster

answered: "Sure foggy, ain't it, sonny? Can't see ya. Better come a little closer. I ain't no dermie."

Loathing choked in Paul's throat. "The hell you're not. Nobody else'd be crazy enough to sing. Get off the road! I'm going south, and if I see you I'll shoot. Now move!"

"Sure, sonny. I'll move. But Fm no dermie. I was just singing to keep myself company. I'm past caring about the plague. I'm heading north, where there's people, and if some dermie hears me a'singing… why, I'll tell him t'come jine in. What's the good o' being healthy if yer alone?"

While the old man spoke, Paul heard his sloshing across the ditch and climbing through the brush. Doubt assailed him. Maybe the old crank wasn't a dermie. An ordinary plague victim would have whimpered and pleaded for satisfaction of his strange craving-the! aying-on of hands, the feel of healthy skin beneath moist gray palms. Nevertheless, Paul meant to take no chances with the oldster.

"Stay back in the brush while I walk past!" he called.

"'Okay, sonny. You go right by, I ain't gonna touch you. You aiming to scrounge in Houston?"

Paul began to advance. "Yeah, I figure people got out so fast that they must have left plenty of canned goods and stuff behind."

"Mmmm, there's a mite here and there," said the cracked voice in a tone that implied understatement. "Course, now, you ain't the first to figure that way, y'know."

Paul slacked his pace, frowning. "You mean… a lot of people are coming back?"

"Mmmm, no-not a lot. But you'll bump into people everyday or two. Ain't my kind o' folks. Rough characters, mostly- don't take chances, either. They'll shoot first, then look to see if you was a dermie. Don't never come busting out of a doorway without taking a peek at the street first. And if two people come around a corner in opposite directions, somebody's gonna die. The few that's there is trigger happy. Just thought I'd warn ya." " "Thanks."

"D'mention it. Been good t'hear a body's voice again, tho I can't see ye."

Paul moved on until he was fifty paces past the voice. Then he stopped and turned. "Okay, you can get back on the road now. Start walking north. Scuff your feet until you're out of earshot."

"Taking no chances, are ye?" said the old man as he waded the ditch. "All right, sonny." The sound of his footsteps hesitated on the pavement. "A word of advice-your best scrounging'll be ar amp;und the warehouses. Most of the stores are picked clean. Good luck!"

Paul stood listening to the shuffling feet recede northward. When they became inaudible, he turned to continue his journey. The

meeting had depressed him, reminded him of the animal-level to which he and others like him had sunk. The oldster was obviously healthy; but Paul had been chased by-three dermies in as many days. And the thought of being trapped by a band of them in the fog left him unnerved. Once he had seen a pair of the grinning, maddened compulsives seize a screaming young child while each of them took turns caressing the youngster's arms and face with the gray and slippery hands that spelled certain contraction of the disease-if disease it was. The dark pall of neuroderm was unlike any illness that Earth had ever seen.

The victim became the eager ally of the sickness that gripped him. Caught in its demoniac madness, the stricken human searched hungrily for healthy comrades, then set upon them with no other purpose than to paw at the clean skin and praise the virtues of the blind compulsion that drove him to do so. One touch, and infection was insured. It was as if a third of humanity had become night-prowling maniacs, lurking in the shadows to seize the unwary, working in bands to trap the unarmed wanderer. And two-thirds of humanity found itself fleeing in horror from the mania, seeking the frigid northern climates where, according to rumor, the disease was less infectious. The normal functioning of civilization had been dropped like a hot potato within six months after the first alarm. When the man at the next lathe might be hiding gray discolorations beneath his shirt, industrial society was no place for humanity.

Rumor connected the onslaught of the plague with an un-predicted swarm of meteorites which had brightened the sky one October evening two weeks before the first case was discovered. The first case was, in fact, a machinist who had found one of the celestial cannon balls, handled it, weighed it, estimated its volume by fluid-displacement, then cut into it on his lathe because its low density suggested that it might be hollow. He claimed to have found a pocket of frozen jelly, still rigid from deep space, although the outer shell had been heated white-hot by atmospheric friction. He said he let the jelly thaw, then fed it to his cat because it had an unpleasant fishy odor. Shortly thereafter, the cat disappeared.

Other meteorites had been discovered and similarly treated by-university staffs before there was any reason to blame them for the plague. Paul, who had been an engineering student at Texas U at the time of the incident, had heard it said that the missiles were purposefully manufactured by parties unknown, that the jelly contained microorganisms which under the microscope suggested a cross between a sperm-cell (because of *a* similar tail) and a Pucini

Corpuscle (because of a marked resemblance to nerve tissue in subcellular detail).

When the meteorites were connected with the new and mushrooming disease, some people started a panic by theorizing that the meteor-swarm was a pre-invasion artillery attack by some space-horde lurking beyond telescope range, and waiting for their biological bombardment to wreck civilization before they moved in upon Earth. The government had immediately labeled all investigations "top-secret," and Paul had heard no news since the initial speculations. Indeed, the government might have explained the whole thing and proclaimed it to the country for all he knew. One thing was certain: the country had not heard. It no longer possessed channels of communication.

Paul thought that if any such invaders were coming, they would have already arrived-months ago. Civilization was not truly wrecked; it had simply been discarded daring the crazed flight of the individual away from the herd. Industry lay idle and unmanned, but still intact. Man was fleeing from Man. Fear had destroyed the integration of his society, and had left him powerless before any hypothetical invaders. Earth was ripe for plucking, but it remained unplucked and withering. Paul, therefore, discarded the invasion hypothesis, and searched for nothing new to replace it. He accepted the fact of his own existence in the midst of chaos, and sought to protect that existence as best he couid. It proved to be a full-time job, with no spare time for theorizing.

Life was a rabbit scurrying over a hill. Life was a warm blanket, and a secluded sleeping place. Life was ditchwater, and an unbloated can of corned beef, and a suit of clothing looted from a deserted cottage. Life, above all else, was an avoidance of other human beings. For no dermie had the grace to cry "unclean!" to the unsuspecting. If the dermie's discolorations were still in the concealable stage, then concealed they would be, while the lost creature deliberately sought to infect his wife, his children, his friends-whoever would not protest an idle touch of the hand. When the gray-ness touched the face the backs of the hands, the creature became a feverish night wanderer, subject to strange hallucinations and delusions and desires.

The fog began to part toward midmorning as Paul drove deeper into the outskirts of Houston. The highway, was becoming a commercial subcenter, lined with businesses and small shops. The sidewalks were showered with broken glass from windows kicked in by looters. Paul kept to the center of the deserted street, listening and watching cautiously for signs of life. The distant barking of a dog was the only sound in the once-growing metropolis. A flight of sparrows winged down the street, then darted in through a broken window to an inside nesting place.

He searched *a* small grocery store, looking for a snack, but the

shelves were bare. The thoroughfare had served as a main avenue of escape, and the fugitives had looted it thoroughly to obtain provisions. He turned onto a side street, then after several blocks turned again to parallel the highway, moving through an old residential section. Many houses had been left open, but few had been looted. He entered one old frame mansion and found a can of tomatoes in the kitchen. He opened it and sipped the tender delicacy from the container, while curiosity sent him prowling through the rooms.

He wandered up the first flight of stairs, then halted with one foot on the landing. A body lay sprawled across the second flight-the body of a young man, dead quite a while. A well-rusted pistol had fallen from his hand. Paul dropped the tomatoes and bolted for the street. Suicide was a common recourse, when a man learned that he had been touched.

After two blocks, Paul stopped running. He sat panting on a fire hydrant and chided himself for being overly cautious. The man had been dead for months; and infection was achieved only through contact. Nevertheless, his scalp wag still tingling. When he had rested briefly, he continued his plodding course toward the heart of the city. Toward noon, he saw another human being.

The man was standing on the loading dock of a warehouse, apparently enjoying the sunlight that came with the dissolving of the fog. He was slowly and solemnly spooning the contents of a can into a red-lipped mouth while his beard bobbled with appreciative chewing. Suddenly he saw Paul who had stopped in the center of the street with his hand on the butt of his pistol. The man backed away, tossed the can aside, and sprinted the length of the platform. He bounded off the end, snatched a bicycle away from the wall, and pedaled quickly out of sight while he bleated shrill blasts on a police whistle clenched between his teeth.

Paul trotted to the corner, but the man had made another turn. His whistle continued bleating. A signal? A dermie summons to a touching orgy? Paul stood still while he tried to overcome an urge to break into panicked flight. After a minute, the clamor ceased; but the silence was ominous.

If a party of cyclists moved in, he could not escape on foot. He darted toward the nearest warehouse, seeking a place to hide. Inside, he climbed a stack of boxes to a horizontal girder, kicked the stack to topple it, and stretched out belly-down on the steel I-beam to command a clear shot at the entrances. He lay for an hour, waiting quietly for searchers. None came. At last he slid down a vertical support and returned to the loading platform. The street was empty and silent. With weapon ready, he continued his journey. He passed the next intersection without mishap.

Halfway up the block, a calm voice drawled a command from behind him: "Drop the gun, dermie. Get your hands behind your head."

He halted, motionless. No plague victim would hurl the dermie-charge at another. He dropped the pistol and turned slowly. Three men with drawn revolvers were clambering from the back of a stalled truck. They were all bearded, wore blue jeans, blue neckerchiefs, and green woolen shirts. He suddenly recalled that the man on the loading platform had been similarly dressed. A uniform?

"Turn around again!" barked the speaker.

Paul turned, realizing that the men were probably some sort of self-appointed quarantine patrol. Tow ropes suddenly skidded out from behind and came to a stop near his feet on the pavement-a pair of lariat loops.

"One foot in each loop, dermie!" the speaker snapped.

When Paul obeyed, the ropes were jerked taut about his ankles, and two of the men trotted out to the sides, stood thirty feet apart, and pulled his legs out into a wide straddle. He quickly saw that any movement would cost him his balance.

"Strip to the skin."

"I'm no dermie," Paul protested as he unbuttoned his shirt.

"We'll see for ourselves, Joe," grunted the leader as he moved around to the front. "Get the top off first. If your chest's okay, we'll let your feet go."

When Paul had undressed, the leader walked around him slowly, making him spread his fingers and display the soles of his feet. He stood shivering and angry in the chilly winter air while the men satisfied themselves that he wore no gray patches of neuroderm.

"You're all right, I guess," the speaker admitted; then as

Paul stooped to recover his clothing, the man growled, "Not those! Jim, get him a probie outfit."

Paul caught a bundle of clean clothing, tossed to him from the back of the truck. There were jeans, a woolen shirt, and a kerchief, but the shirt and kerchief were red. He shot an inquiring glance at the leader, while he climbed into the welcome change.

"All newcomers are on two weeks probation," the man explained. "If you decide to stay in Houston, you'll get another exam next time the uniform code changes. Then you can join our outfit, if you don't show up with the plague. In fact, you'll have to join if you stay."

"What is the outfit?" Paul asked suspiciously.

"It just started. Schoolteacher name of Georgelle organized it. We aim to keep dermies out. There's about six hundred of us now. We guard the downtown area, but soon as there's enough of us we'll move out to take in more territory. Set up road blocks and all that. You're

welcome, soon as we're sure you're clean…, and can take orders."

"Whose orders?"

"Georgelle's. We got no room for goof-offs, and no time for argument. Anybody don't like the setup, he's welcome to get out, Jim here'll give you a leaflet on the. rules. Better read it before you go anywhere. If you don't, you might make a wrong move. Make a wrong move, and you catch a bullet."

The man called Jim interrupted, "Reckon you better call off the other patrols, Digger?" he said respectfully to the leader.

Digger nodded curtly and turned to blow three short blasts and a long with his whistle. An answering short-long-short came from several blocks away. Other posts followed suit. Paul realized that he had been surrounded by a ring of similar ambushes.

"Jim, take him to the nearest water barrel, and see that he shaves," Digger ordered, then: "What's your name, probie? Also your job, if you had one."

"Paul Harris Oberlin. I was a mechanical engineering student when the plague struck. Part-time garage mechanic while I was in school."

Digger nodded and jotted down the information on a scratchpad. "Good, I'll turn your name in to the registrar. Georgelle says to watch for college men. You might get a good assignment, later. Report to the Esperson Building on the seventeenth. That's inspection day. If you don't show up, we'll come looking for you. All loose probies'll get shot. Now Jim here's gonna see to it that you shave. Don't shave again until your two-weeker. That way, we can estimate how long you been in town-by looking at your beard. We got other ways that you don't need to know about. Georgette's got a system worked out for everything, so don't try any tricks,"

"Tell me, what do you do with dermies?"

Digger grinned at his men. "You'll find out, probie."

Paul was led to a rain barrel, given a basin, razor, and saapv He-scraped-his-face clean while-Jim sat at a safe dis-tance, munching a quid of tobacco and watching the operation with tired boredom. The other men had gone,

"May I have my pistol back?"

"Uh-uh! Read the rules. No weapons for probies,"

"Suppose I bump into a dermie?"

"Find yourself a whistle and toot a bunch of short blasts. Then run like hell. We'll take care of the dermies. Read the rules."

"Can I scrounge wherever 1 want to?"

"Probies have their own assigned areas. There's a map in the rules."

"Who wrote the rules, anyhow?"

"Jeezis!" the guard grunted disgustedly. "Read 'em and find out."

When Paul finished shaving, Jim stood up, stretched, then bounded off the platform and picked up his bicycle.

"Where do I go from here?" Paul called.

The man gave him a contemptuous snort, mounted the bike, and pedaled leisurely away. Paul gathered that he was to read the rules. He sat down beside the rain barrel and began studying the mimeographed leaflet.

Everything was cut and dried. As a probie, he was confined to an area six blocks square near the heart of the city. Once he entered it, a blue mark would be stamped on his forehead. At the two-week inspection, the indelible brand would be removed with a special solution. If a branded probie were caught outside his area, he would be forcibly escorted from the city. He was warned against attempting to impersonate permanent personnel, because a system of codes and passwords would ensnare him. One full page of the leaflet was devoted to propaganda. Houston was to become a "Bulwark of health in a stricken world, and the leader of a glorious recovery." The paper was signed by Dr. Georgelle, who had given himself the title of Director.

The pamphlet left Paul with a vague uneasiness. The uniforms-they reminded him of neighborhood boys' gangs in the slums, wearing special sweaters and uttering secret passwords, whipping intruders and amputating the tails of stray cats in darkened garages. And, in another way, it made him think of frustrated little people, gathering at night in brown shirts around a bonfire to sing the *Horst Wessel Lied* and listen to grandiose oratory about glorious destinies. *Their* stray eats had been an unfavored race.

Of course, the dermies were not merely harmless alley prowlers. They were a real menace. And maybe Georgelle's methods were theorily ones effective.

While Paul sat with the pamphlet on the platform, he had been gazing absently at the stalled truck from which the men had emerged. Suddenly it broke upon his consciousness that it was a diesel. He bounded off the platform, and went to check its fuel tank, which had been left uncapped.

He knew that it was useless to search for gasoline, but diesel fuel was another matter. The exodus had drained all existing supplies of high octane fuel for the escaping motorcade, but the evacuation had been too hasty and too fear-crazed to worry with out-of-the-ordinary methods. He sniffed the tank. It smelled faintly of gasoline. Some unknowing fugitive had evidently filled it with ordinary fuel, which had later evaporated. But if the cylinders had not been damaged by the trial, the truck might be useful. He checked the engine briefly, and

decided that it had not been tried at all. The starting battery had been removed.

He walked across the street and looked back at the ware-house. It bore the sign of a trucking firm. He walked around the block, eyeing the streets cautiously for other patrolmen. There was a fueling platform on the opposite side of the block. A fresh splash of oil on the concrete told him that Georgelle's crew was using the fuel for some purpose-possibly for heating or cooking. He entered the building and found a repair shop, with several dismantled engines lying about. There was a rack of batteries in the corner, but a screwdriver placed across the terminals brought only a weak spark.

The chargers, of course, drew power from the city's electric service, which was dead. After giving the problem some thought, Paul connected five of the batteries in series, then placed a sixth across the total voltage, so that it would collect the charge that the others lost. Then he went to carry buckets of fuel from the pumps to the truck. When the tank was filled; he hoisted each end of the truck with a roll-under jack and inflated the tires with a harohpump. It was a long and la-borious job.

Twilight was gathering by the time he was ready to try it. Several times during the afternoon, he had been forced to hide from cyclists who wandered past, lest they send him on to the probie area and use the truck for their own purposes. Evidently they had long since decided that automotive trans-portation was a thing of the past.

A series of short whistle-blasts came to his ears just as he was climbing into the cab. The signals were several blocks away, but some of the answering bleats were closer. Evidently another newcomer, he thought. Most new arrivals from the north would pass through the same area on their way downtown. He entered the cab, closed the door softly, and ducked low behind the dashboard as three cyclists raced across the intersection just ahead.

Paul settled down to wait for the all-clear. It came after about ten minutes. Apparently the newcomer had tried to run instead of hiding. When the cyclists returned, they were moving leisurely, and laughing among themselves. After they had passed the intersection, Paul stole quietly out of the cab and moved along the wall to the corner, to assure himself that all the patrolmen had gone. But the sound of shrill pleading came to his ears.

At the end of the building, he clung close to the wall and risked a glance" around the corner, A block away, the nude-figure of a girl was struggling between taut ropes held by green-shirted guards. She was a pretty girl, with a tousled mop of chestnut hair and clean white limbs-clean except for her forearms, which appeared dipped in dark stain. Then he jaw the dark irregular splotch across her flank, like a splash

of ink not quite washed clean. She was a dermie.

Paul ducked close to the ground so that his face was hidden by a clump of grass *at* the corner. A man-the leader of the-group-had left the girl, and was advancing up the street toward Paul, who prepared to roll under the building out of sight. But in the middle of the block, the man stopped. He lifted a manhole cover in the pavement, then went back for the girl's clothing, which he dragged at the end of a fishing pole with a wire hook at its tip. He dropped the clothing, one piece at a time, into the manhole. A cloud of white dust arose from it, and the man stepped back to avoid the dust. Quicklime, Paul guessed.

Then the leader cupped his hands to his mouth and called back to the others. "Okay, drag her on up here!" He drew his revolver and waited while they tugged the struggling girl toward the manhole.

Paul felt suddenly ill. He had seen dermies shot in self-defense by fugitives from their deathly gray hands, but here was cold and efficient elimination. Here was Dachau and Buchenwald and the nameless camps of Siberia. He turned and bolted for the truck.

The sound of its engine starting brought a halt to the disposal of the pest-girl. The leader appeared at the intersection and stared uncertainly at the truck, as Paul nosed it away from the building. He fidgeted with his revolver doubtfully, and called something over his shoulder to the others. Then he began walking out into the street and signaling for the truck to stop. Paul let it crawl slowly ahead, and leaned out the window to eye the man questioningly.

"How the hell you get that started?" the leader called excitedly. He was still holding the pistol, but it dangled almost unnoticed in his hand. Paul suddenly fed fuel to the diesel and swerved sharply toward the surprised guardsman.

The leader yelped and dived for safety, but the fender caught his hips, spun him off balance, and smashed him down against the pavement. As the truck thundered around the corner toward the girl and her captors, he glanced in the mirror to see the hurt man weakly trying to crawl out of the street. Paul was certain that he was not mortally wounded.

As the truck lumbered on, the girl threw herself prone before it, since the ropes prevented any escape. Paul swerved erratically, sending the girl's captors scurrying for the alley. Then he aimed the wheels to straddle her body. She glanced up, screamed, then hugged the pavement as the behemoth thundered overhead. A bullet plowed a furrow across the hood. Paul ducked low in the seat and jammed the brake pedal down, as soon as he thought she was clear.

There were several shots, but apparently they were shooting at the girl. Paul counted three seconds, then gunned the engine again. If she hadn't climbed aboard, it was just tough luck, he thought grimly.

He shouldn't have tried to save her anyway. But continued shooting told him that she had managed to get inside. The trailer was heaped with clothing, and he trusted the mound of material to halt the barrage of bullets. He heard the explosion of a blowout as he swung around the next corner, and the trailer lurched dangerously. It swayed from side to side as he gathered speed down the wide and trafficless avenue. But the truck had double wheels, and soon the dangerous lurching ceased.

He roared on through the metropolitan area, staying on the same street and gathering speed. An occasional scrounger or cyclist stopped to stare, but they seemed too surprised to act. And they could not have known what had transpired a few blocks away.

Paul could not stop to see if he had a passenger, or if she was still alive. She was more dangerous than the gunmen. Any gratitude she might feel toward her rescuer would be quickly buried beneath her craving to spread the disease. He wished fervently that he had let the patrolmen kill her. Now he was faced with the problem of getting rid of her. He noticed, however, that mirrors were mounted on both sides of the cab. If he stopped the truck, and if she climbed out, he could see, and move away again before she had a chance to approach him. But he decided to wait until they were out of the city.

Soon he saw a highway marker, then a sign that said "Galveston-58 miles." He bore ahead, thinking that perhaps the island-city would provide good scrounging, without the regimentation of Doctor Georgelle's efficient system with its plan for "glorious recovery."

Twenty miles beyond the city limits, he stopped the truck, let the engine idle, and waited for his passenger to climb out. He locked the doors and laid a jack-handle across the seat as an added precaution. Nothing happened. He rolled down the window and shouted toward the rear.

"All passengers off the bus! Last stop! Everybody out!"

Still the girl did not appear. Then he heard something- a light tap from the trailer, and a murmur… or a moan. She was there all right. He called again, but she made no response. It was nearly dark outside.

At last he seized the jack-handle, opened the door, and stepped out of the cab. Wary of a trick, he skirted wide around the trailer and approached it from the rear. One door was closed, while the other swung free. He stopped a few yards away and peered inside. At first he saw nothing.

"Get out, but keep away or I'll kill you,"

Then he saw her move. She was sitting on the floor, leaning back against a heap of clothing, a dozen feet from the entrance. He stepped forward cautiously and flung open the other door. She turned her

head to look at him peculiarly, but said nothing. He could see that she had donned some of the clothing, but one trouser-leg was rolled up, and she had tied a rag tightly about her ankle.

"Are you hurt?"

She nodded. "Bullet…" She rolled her head dizzily and moaned.

Paul went back to the cab to search for a first aid kit. He found one, together with a flashlight and spare batteries in the glove compartment. He made certain that the ceils were not corroded and that the light would burn feebly. Then he returned to the trailer, chiding himself for a prize fool. A sensible human would haul the dermie "out at the end of a towing chain and leave her sitting by the side of the road.

"If you try to touch me, I'll brain you!" he warned, as he clambered into the trailer.

She looked up again "Would you feel… like enjoying anything… if you were bleeding like this?" she muttered weakly. The flashlight beam caught the glitter of pam in her eyes, and accentuated the pallor of her small face. She was a pretty girl-scarcely older than twenty-but Paul was in no mood to appreciate pretty women, especially dermies.

"So that's how you think of it, eh? Enjoying yourself!"

She said nothing. She dropped her forehead against her knee and rolled it slowly.

"Where are you hit? Just the foot?"

"Ankle…"

"All right, take the rag off. Let's see."

"The wound's in back."

"All right, lie down on your stomach, and keep your hands under your head."

She stretched out weakly, and he shone the light over her leg, to make certain its skin was clear of neuroderm. Then he looked at the ankle, and said nothing for a time. The bullet had missed the joint, but had neatly severed the Achilles' tendon just above the heel.

"You're a plucky kid," he grunted, wondering how she had endured the self-torture of getting the shoe off and clothing herself.

"It was cold back here-without clothes," she muttered.

Paul opened the first aid packet and found an envelope of sulfa powder. Without touching her, he emptied it into the wound, which was beginning to bleed again. There was nothing else he could do. The tendon had pulled apart and would require surgical stitching to bring it together until it could heal. Such attention was out of the question.

She broke the silence. "I… I'm going to be crippled, aren't I?"

"Oh-, not crippled," he heard himself telling her. "If we can get you to a doctor, 'anyway. Tendons can be sutured with wire. He'll

probably put your foot in a cast, and you might get a stiff ankle from it."

She lay breathing quietly, denying his hopeful words by her silence.

"Here!" he said. "Here's a gauze pad and some tape. Can you manage it yourself?"

She started to sit up. He placed the first aid pack beside her, and backed to the door. She fumbled in the kit, and whimpered while she taped the pad in place.

"There's a tourniquet in there, too. Use it if the bleeding's worse."

She looked up to watch his silhouette against the darkening evening sky. "Thanks… thanks a lot, mister. I'm grateful. I promise not to touch you. Not if you don't want me to."

Shivering, he moved back to the cab. Why did they always get that insane idea that they were doing their victims a favor by giving them the neural plague? *Not if you don't want me to.* He shuddered as he drove away. She felt that way now, while the pain robbed her of the craving, but later- unless he got rid of her quickly-she would come to feel that she owed it to him-as a favor. The disease perpetuated itself by arousing such strange delusions in its bearer. The microorganisms' methods of survival were indeed highly specialized. Paul felt certain that such animalcules had not evolved on Earth.

A light gleamed here and there along the Alvin-Galveston highway-oil lamps, shining from lonely cottages whose occupants had not felt the pressing urgency of the crowded city. But he had no doubt that to approach one of the farmhouses would bring a rifle bullet as a welcome. Where could he find help for the girl? No one would touch her but another dermie. Perhaps he could unhitch the trailer and leave her in downtown Galveston, with a sign hung on the back-"Wounded dermie inside." The plague victims would care for their own- if they found her.

He chided himself again for worrying about her. Saving her life didn't make him responsible for her…did it? After all, if she lived, and the leg. healed, she would only prowl in search of healthy victims again. She would never be rid of the disease, nor would she ever die of it-so far as anyone knew. The death rate was high among dermies, but the cause was usually a bullet.

Paul passed a fork in the highway and knew that the bridge was just ahead. Beyond the channel lay Galveston Island, once brightly lit and laughing in its role as seaside resort-now immersed in darkness. The wind whipped at the truck from the southwest as the road led up onto the wide causeway. A faint glow in the east spoke of a moon about to rise. He saw the wide structure of the drawbridge just ahead.

Suddenly he clutched at the wheel, smashed furiously down on

the brake, and tugged the emergency back. The tires howled ahead on the smooth concrete, and the force threw him forward over the wheel. Dusty water swirled far below where the upward folding gates of the drawbridge had once been. He skidded to a stop ten feet from the end. When he climbed out, the girl was calling weakly from the trailer, but he walked to the edge and looked over. Someone had done a job with dynamite.

Why, he wondered. To keep islanders on the island, or to keep mainlanders off? Had another Doctor Georgelle started his own small nation in Galveston? It seemed more likely that the lower island dwellers had done the demolition.

He looked back at the truck. An experienced truckster might be able to swing it around all right, but Paul was doubtful. Nevertheless, he climbed back in the cab, and tried it. Half an hour later he was hopelessly jammed, with the trailer twisted aside and the cab wedged near the sheer drop to the water. He gave it up and went back to inspect his infected cargo.

She was asleep, but moaning faintly. He prodded her awake with the jack-handle. "Can you crawl, kid? If you can, come back to the door."

She nodded, and began dragging herself toward the flashlight. She clenched her lip between her teeth to keep from whimpering, but her breath came as a voiced murmur… *nnnng… nnnng…*

She sagged weakly when she reached the entrance, and for a moment he thought she had fainted. Then she looked up. "What next, skipper?" she panted.

"I… I don't know. Can you let yourself down to the pavement?"

She glanced over the edge and shook her head. "With a rope, maybe. There's one back there someplace. If you're scared of me, I'll try to crawl and get it."

"Hands to yourself?" he asked suspiciously; then he thanked the darkness for hiding the heat of shame that crawled to his face.

"I won't…"

He scrambled into the trailer quickly and brought back the rope. "I'll climb up on top and let it down in front of you. Grab hold and let yourself down."

A few minutes later she was sitting on the concrete causeway looking at the wrecked draw. "Oh!" she muttered as he scrambled down from atop the trailer. "I thought you just wanted to dump me here. We're stuck, huh?"

"Yeah! We might swim it, but doubt if you could make it."

"I'd try…" She paused, cocking her head slightly. "There's a boat moored under the bridge. Right over there."

"What makes you think so?"

"Water lapping against wood. Listen." Then she shook her head. "I forgot. You're not hyper."

"I'm not what?" Paul listened. The water sounds seemed homogeneous.

"Hyperacute. Sharp senses. You know, it's one of the symptoms."

He nodded, remembering vaguely that he'd heard something to that effect-but he'd chalked it up as hallucinatory phenomenon. He walked to the rail and shone his light toward the water. The boat was there-tugging its. rope taut from the mooring as the tide swirled about it. The bottom was still fairly dry, indicating that a recent rower had crossed from the island to the mainland.

"Think you can hold onto the rope if I let you down?" he called.

She gave him a quick glance, then picked up the end she had previously touched and tied a loop about her waist. She began crawling toward the rail. Paul fought down a crazy urge to pick her up and carry her; plague be damned. But hi had already left himself dangerously open to contagion. Still, he felt the drumming charges of conscience… *depart from me, ye accursed, for I was sick and you visited me not…*

He turned quickly away, and began knotting the end of the rope about the rail. He reminded himself that any sane person would desert her at once, and swim on to safety. Yet, he could not. In the oversized clothing she looked like a child, hurt and helpless, Paul knew the demanding arrogance that could possess the wounded-*help me, you've got to help me, you damn merciless bastard!…No, don't touch me there, damn you!* Too many times, he had heard the sick curse the physician, and the injured curse the rescuer. Blind aggression, trying to strike back at pain.

But the girl made no complaint except the involuntary hurt sounds. She asked nothing, and accepted his aid with a wide-eyed gratitude that left him weak. He thought that it would be easier to leave her if she would only beg, or plead, or demand.

"Can you start me swinging a little?" she called as he lowered her toward the water.

Paul's eyes probed the darkness below, trying to sort the shadows, to make certain which was the boat. He used both hands to feed out the rope, and the light laid on the rail only seemed to blind him. She began swinging herself pendulum-wise somewhere beneath him.

"When I say "ready," let me go!" she shrilled.

"You're not going to drop!"

"Have to! Boat's out further. Got to swing for it. I can't swim, really."

"But you'll hurt your-"

"Ready!"

Paul still clung to the rope. "I'll let you down into the water and you can hang onto the rope. I'll dive, and then pull you into the boat."

"Uh-uh! You'd have to touch me. You don't want that, do you? Just a second now… one more swing… ready!"

He let the rope go. With a clatter and a thud, she hit the boat. Three sharp cries of pain clawed at him. Then-muffled sobbing.

"Are you all right?"

Sobs. She seemed not to hear him.

"Jeezis!" He sprinted for the brink of the drawbridge and dived out over the deep channel. How far… down… down… Icy water stung his body with sharp whips, then opened to embrace him. He fought to the surface and swam toward the dark shadow of the boat. The sobbing had subsided. He grasped the prow and hauled himself dripping from the channel. She was lying curled in the bottom of the boat.

"Kid…you all right, kid?"

"Sorry… I'm such a baby," she gasped, and dragged herself back to the stern.

Paul found *a* paddle, but no oars. He cast off and began digging water toward the other side, but the tide tugged them relentlessly away from the bridge. He gave it up and paddled toward the distant shore. "You know anything about Gal-veston?" he called-mostly to reassure himself that she was not approaching him in the darkness with the death-gray hands, "I used to come here for the summer, I know a little about it"

Paul urged her to talk while he plowed toward the island. Her name was Willie, and she insisted that it was for Willow, not for Wilhelmina. She came from Dallas, and claimed she was a salesman's daughter who was done in by a traveling farmer. The farmer, she explained, was just a wandering dermie who had caught her napping by the roadside. He had: stroked her arms until she awoke, then had run away, howling with glee.

"That was three weeks ago," said, "If I'd had a gun, I'd have dropped him. Of course, I know better now,"

Paul shuddered and paddled on. "Why did you head south?"

"I was coming here,"

"Here? To Galveston?"

"Uh-huh. I heard someone say that a lot of nuns were coming to the island. I thought maybe they'd take me in,"

The moon was high over the lightless city, and the tide had swept the small boat far east from the bridge by the time Paul's paddle dug into the mud beneath the shallow water. He bounded out and dragged the boat through thin marsh grass onto the shore. Fifty yards away, a ramshackle fishing cottage lay sleeping in the moonlight.

"Stay here, Willie," he grunted. "I'll find a couple of boards or something for crutches."

He rummaged about through a shed behind the cottage and brought back a wheelbarrow. Moaning and laughing at once, she struggled into it, and he wheeled her to the house, humming a verse *of Rickshaw Boy*.

"You're a funny guy, Paul, I'm sorry…" She jiggled her tousled head in the moonlight, as if she disapproved of her own words.

Paul tried the cottage door, kicked it open, then walked the wheelbarrow up three steps and into a musty room. He struck a match, found an oil lamp with a little kerosene, and tit it. Willie caught her breath.

He looked around. "Company," he grunted.

The company sat in a fragile rocker with a shawl about her shoulders and a shotgun between her knees. She had been dead at least a month. The charge of buckshot had sieved the ceiling and spattered it with bits of gray hair and brown blood.

"Stay here," he told the girl tonelessly. "I'll try to get a dermie somewhere-one who knows how to sew a tendon. Got any ideas?"

She was staring with a sick face at the old woman. "Here? With-"

"She won't bother you," he said as he gently disentangled the gun from the corpse. He moved to a cupboard and found a box of shells behind an orange teapot. "I may not be back, but I'll send somebody."

She buried her face in her plague-stained hands, and he stood for a moment watching her shoulders shiver. "Don't worry… I will send somebody." He stepped to the porcelain sink and pocketed a wafer-thin sliver of dry soap.

"What's that for?" she muttered, looking up again.

He thought of a lie, then checked it. "To wash you off of me," he said truthfully. "I might have got too close. Soap won't do much good, but I'll feel better," He looked at the corpse coolly. "Didn't do her much good. Buckshot's the best antiseptic all right."

Willie moaned as he went out the door. He heard her crying as he walked down to the waterfront. She was still crying when he waded back to shore, after a thorough scrubbing. He was sorry he'd spoken cruelly, but it was such a damned relief to get rid of her…

With the shotgun cradled on his arm, he began patting distance between himself and the sobbing. But the sound worried his ears, even after he realized that he was no longer hearing her.

He strode a short distance inland past scattered fishing shanties, then took the highway toward the city whose outskirts he was entering. It would be at least an hour's trek to the end of the island where he would be most likely to encounter someone with medical training. The hospitals were down there, the medical school, the most

likely place for any charitable nuns-if Willie's rumor were true. Paul meant to capture a dermie doctor or nurse and force the amorous-handed maniac at gun-point to go to Willie's aid. Then he would be done with her. When she stopped hurting, she would start craving-and he had no doubt that he would be the object of her manual affections.

The bay was wind-chopped in the moonglow, no longer glittering from the lights along 61st Street. The oleanders along Broadway were choked up with weeds. Cats or rabbits rustled in the tousled growth that had been a carefully tended parkway.

Paul wondered why the plague had chosen Man, and not the lower animals. It was true that an occasional dog or cow was seen with the plague, but the focus was upon humanity. And the craving to spread the disease was Man-directed, even in animals. It was as if the neural entity deliberately sought out the species with the most complex nervous system. Was its onslaught really connected with the meteorite swarm? Paul believed that it was.

In the first place, the meteorites not predicted.

They were not a part of the regular cosmic bombardment.

And then there was the strange report that they were *manufactured* projectiles, teeming with frozen micro-organisms which came alive upon thawing. In these days of tumult and confusion, however, it was hard. Nevertheless Paul believed it. Neuroderm had no first cousins among Earth diseases.

What manner of beings, then, had sent such a curse? Potential invaders? If so, they were slow in coming. One thing was generally agreed upon by the scientists: the missiles had not been "sent" from another solar planet. Their direction upon entering the atmosphere was wrong. They could conceivably have been fired from an interplanetary launching ship, but their velocity was about equal to the theoretical velocity which a body would obtain in falling sunward from the near-infinite distance. This seemed to hint the projectiles had come from another star.

Paul was startled suddenly by the flare of a match from the shadow of a building. He stopped dead still in the street.

A man was leaning against the wall to light a cigarette. He flicked the match out, and Paul watched the cigarette-glow make an arc as the man waved at him.

"Nice night, isn't it?" said the voice from the darkness.

Paul stood exposed in the moonlight, carrying the shotgun at the ready. The voice sounded like that of an adolescent, not fully changed to its adult timbre. If the youth wasn't a dermie, why wasn't he afraid that Paul might be one? And if he was a derrnie, why wasn't he advancing in the hope that Paul might be as yet untouched?

"I said, 'Nice night, isn't it?' Watcha carrying the *gun* for? Been

shooting rabbits?"

Paul moved a little closer and fumbled for his flashlight Then he threw its beam on the slouching figure in the shadows. He saw a young man, perhaps sixteen, reclining against the wall. He saw the pearl-gray face that characterized the final and permanent stage of neuroderm! He stood frozen to the spot a dozen feet away from the youth, who blinked perplexedly into the light. The kid was assuming automatically that he was another dermie! Paul tried to keep him blinded while he played along with the fallacy.

"Yeah, it's a nice night. You got any idea where I can find a doctor?"

The boy frowned. "Doctor? You mean you don't know?"

"Know what? I'm new here "

"New? Oh…" the boy's nostrils began twitching slightly, as if he were sniffing at the night air. "Well, most of the priests down at Saint Mary's were missionaries. They're all doctors. Why? You sick?"

"No, there's a girl… But never mind. How do I get there? And are any of them dermies?"

The boy's eyes wandered peculiarly, and his mouth fell open, as if he had been asked why a circle wasn't square. "You are new, aren't you? They're all dermies, if you want to call them that. Wh-" Again the nostrils were flaring. He flicked the cigarette away suddenly and inhaled a slow draft of the breeze. "I… I smell a nonhyper," he muttered.

Paul started to back away. His scalp bristled a warning. The boy advanced a step toward him. A slow beam of anticipation began to glow in his face. He bared his teeth in a wide grin of pleasure.

"You're not a hyper yet," he hissed, moving forward. "I've never had a chance to touch a nonhyper…"

"Stay back, or I'll kill you!"

The lad giggled and came on, talking to himself. "The padre says it's wrong, but… you smell so… so… ugh…" He flung himself forward with a low throaty cry.

Paul sidestepped the charge and brought the- gun barrel down across the boy's head. The dermie sprawled howling in the street. Paul pushed the gun close to his face, but the youth started up again. Paul jabbed viciously with the barrel, and felt it strike and tear. "I don't want to have to blow your head off-"

The boy howled and fell back. He crouched panting on his hands and knees, head hung low, watching a dark puddle of blood gather on the pavement from a deep gash across his cheek. "Whatcha wanta do that for?" he whimpered. "I wasn't gonna hurt you." His tone was that of a wronged and rejected suitor,

"Now, where's Saint Mary's? Is that one of the hospitals? How do I

get there?" Paul had backed to a safe distance and was covering the youth with the gun.

"Straight down Broadway… to the Boulevard… you'll see it down that neighborhood. About the fourth street, I think." The boy looked up, and Paul saw the extent of the gash. It was deep and ragged, and the kid was crying.

"Get up! You're going to lead me there."

Pain had blanketed the call of the craving. The boy strug gled to his feet, pressed a handkerchief against the wound, and with an angry glance at Paul, he set out down the road.

Paul followed ten yards behind, "If you take me through any dermie traps, I'll kill you."

"There aren't any traps," the youth mumbled.

Paul snorted unbelief, but did not repeat the warning. "What made you think I was another dermie?" he snapped.

"Because there's no nonhypers in Galveston, This is a hyper colony. A nonhyper used to drift in occasionally, but the priests had the bridge dynamited. The nonhypers upset the colony. As long as there aren't any around to smell, nobody caused any trouble. During the day, there's a guard out on the causeway, and if any hypers come looking for a place to stay, the guard ferries them across. If nonhypers come, he tells them about the colony, and they go away,"

Paul groaned. He had stumbled into a rat's nest. Was there no refuge from the gray curse? Now he would have to move on. It seemed a hopeless quest. Maybe the old man he met on his way to Houston had arrived at the only possible for peace: submission to the plague. But the thought sickened him somehow. He would have to find some barren island, find a healthy mate, and go to live a savage existence apart from all traces of civilization.

"Didn't the guard stop you at the bridge?" the boy asked. "He never came back today. He must be still out there."

Paul grunted "no" in a tone that warned against idle conversation. He guessed what had happened. The dermie guard had probably spotted some healthy wanderers; and instead of warning them away, he rowed across the drawbridge and set out to chase them. His body probably lay along the highway somewhere, if the hypothetical wanderers were armed.

When they reached 23rd Street, a few blocks from the heart of the city, Paul hissed at the boy to stop. He heard someone laugh. Footsteps were wandering along the sidewalk, overhung by trees. He whispered to the boy to take refuge behing a hedge. They crouched in the shadows several yards apart while the voices drew nearer.

"Brother James had a nice tenor," someone said softly. "But he sings his Latin with a western drawl. It sounds… well… peculiar, to

say the least. Brother John is a stickler for pronunciation. He won't let Fra James solo. Says it gives a burlesque effect to the choir. Says it makes the sisters giggle."

The other man chuckled quietly and started to reply. But his voice broke off suddenly. The footsteps stopped a dozen feet from Paul's hiding place. Paul, peering through the hedge, saw a pair of brown-robed monks standing on the sidewalk. "They were looking around suspiciously.

"Brother Thomas, do you smell-"

"Aye, I smell it."

Paul changed his position slightly, so as to keep the gun pointed toward the pair of plague-stricken monastics. They stood in embarrassed silence, peering into the darkness and shuffling their feet uneasily. One of them suddenly pinched his nose between thumb and forefinger. His companion followed suit.

"Blessed be God," quavered one.

"Blessed be His Holy Name," answered the other.

"Blessed be Jesus Christ, true God and true Man."

"Blessed be…"

Gathering their robes high about their shins, the two monks turned and scurried away, muttering the Litany of the Divine Praises as they went. Paul stood up and stared after them in amazement. The sight of dermies running from a potential victim was almost beyond belief. He questioned his young guide. Still holding the handkerchief against his bleeding face, the boy hung his head.

"Bishop made a ruling against touching nonhypers," he explained miserably. "Says it's a sin, unless the nonhyper submits of his own free will. Says even then it's wrong, except in the ordinary ways that people come in contact with each other. Calls it fleshly desire, and all that."

"Then why did you try to do it?"

"I ain't so religious."

"Well, sonny, you better get religious until we come to the hospital. Now, let's go,"

They marched on down Broadway encountering no other pedestrians. Twenty minutes later, they were standing in the shadows before a hulking brick building, some of whose windows were yellow with lamplight. Moonlight bathed the statue of a woman standing on a ledge over the entrance, indicating to Paul that this was the hospital,

"'All right, boy. You go in and: send oat *a* derrnie doctor. Tell him somebody wants to see him, but if you say I'm not a dermie, I'll come in and kill you. Now move. And don't come back. Stay to get your face fixed,"

The youth stumbled toward the entrance. Paul sat in the shadow

of a tree, where he could see twenty yards in ail directions and guard himself against approach. Soon a blackclad priest came out of the emergency entrance, stopped on the sidewalk, and glanced around.

"Over here!" Paul hissed from across the street.

The priest advanced uncertainly. In the center of the road he stopped again, and held his nose. "Y-you're a nonhyper," he said, almost accusingly.

"That's right, and I've got a gun, so don't try anything."

"What's wrong? Are you sick? The lad said-"

"There's a dermie girl down the island. She's been shot. Tendon behind her heel is cut clean through. You're going to help her,"

"Of course, but…," The priest paused. "You? A nonhyper? Helping a so-called dermie?" His voice went high with amazement.

"So I'm a sucker!" Paul barked. "Now get what you need, and come on."

"The Lord bless you," the priest mumbled in embarrassment as he hurried away,

"Don't sic any of your maniacs on me?" Paul called after him. "I'm armed."

"I'll have to bring a surgeon," the cleric said over his shoulder.

Five minutes later, Paul heard the muffled grunt of a starter. Then an engine coughed to life. Startled, he scurried away from the tree and sought safety in a clump of shrubs. An ambulance backed out of the driveway and into the street. It parked at the curb by the tree, engine running, A pallid face glanced out curiously toward the shadows. "Where are you?" it called, but it was not the priest's voice.

Paul stood up and advanced a few steps.

"We'll have to wait on Father Mendelhaus," the driver called. "He'll be a few minutes."

"You a dermie?"

"Of course. But don't worry. I've plugged my nose and I'm wearing rubber gloves. I can't smell you. The sight of a non-hyper arouses some craving, of course. But it can be overcome with a little willpower. I won't infect you, although I don't understand why you nonhypers fight so hard. You're bound to catch it sooner or later. And the world can't get back to normal until everybody has it."

Paul avoided the startling thought. "You the surgeon?"

"Uh, yes. Father Williamson's the name. I'm not really a specialist, but I did some surgery in Korea. How's the girl's condition? Suffering shock?"

"I wouldn't know."

They fell silent until Father Mendelhaus returned. He came across the street carrying a bag in one hand and a brown bottle in the other. He held the bottle by the neck with a pair of tongs and Paul could see

the exterior of the bottle steaming slightly as the priest passed through the beam of the ambulance's headlights. He placed the flask on the curb without touching it, then spoke to the man in the shadows.

"Would you step behind the hedge and disrobe, young man? Then rub yourself thoroughly with this oil,"

"I doubt it," Paul snapped. "What is it?"

"Don't worry, it's been in'the sterilizer. That's what took me so long. It may be a little hot for you, however. It's only an antiseptic and deodorant. It'll kill your odor, and it'll also give you some protection against picking up stray microorganisms."

After a few moments of anxious hesitation, Paul decided to trust the priest. He carried the hot flask into the brush, undressed, and bathed himself with the warm aromatic oil. Then he slipped back into his clothes and reapproached the ambulance.

"Ride in back," Mendelhaus told him. "And you won't be infected. No one's been in there for several weeks, and as you probably know, the microorganisms die after a few hours' exposure. They have to be transmitted from skin to skin, or else an object has to be handled very soon after a hyper has touched it."

Paul warily climbed inside. Mendelhaus opened a slide and spoke through it from the front seat. "You'll have to show us the way."

"Straight out Broadway. Say, where did you get the gas-oline for this wagon?"

The priest paused. "That has been something of a secret, Oh well… I'll tell you. There's a tanker out in the harbor. The people left town too quickly to think of it. Automobiles are scarcer than fuel in Galveston. Up north, you find them stalled everywhere. But since Galveston didn't have any through-traffic, there were no cars running out of gas, The ones we have are the ones that were left in the repair shop, something wrong with them. And we don't have any mechanics to fix them."

Paul neglected to mention that he was qualified for the job. The priest might get ideas. He fell into gloomy silence as the ambulance turned onto Broadway and headed down-island. He watched the back of the priests heads, silhouetted against the headlighted pavement. They seemed not at all concerned about their disease. Mendelhaus was a slender man, with a blond crew cut and rather bushy eyebrows. He had a thin, aristocratic face-now plague-gray-but jovial enough. It might be the face of an ascetic, but for the quick blue eyes that seemed full of lively interest rather than inward-turning mysticism, Williamson, on the other hand, was a rather plain man, with a stolid tweedy look, despite his black cassock.

"What do you think of our plan here?" asked Father Mendelhaus.

"What plan?" Paul grunted.

"Oh, didn't the boy tell you? We're trying to make the island a refuge for hypers who are willing to sublimate their craving and turn their attentions toward reconstruction. We're also trying to make an objective study of this neural condition, We have some good scientific minds, too-Doctor Relmone of Fordham, Father Seyes of Notre Dame, two bi-ologists from Boston College…"

"Dermies trying to cure the plague?" Paul gasped.

Mendelhaus laughed merrily. "I didn't say cure it, son. I said 'study it.'"

"Why?"

"To learn how to live with it, of course. Itʳs been pointed out by our philosophers that things become evil only through human misuse. Morphine, for instance, is a product of the

Creator; it is therefore good when properly used for relief of pain. When mistreated by an addict, it becomes a monster. We bear this in mind as we study neuroderm."

Paul snorted contemptuously. "Leprosy is evil, I suppose, because Man mistreated bacteria?"

The priest laughed again. "You've got me there. I'm no philosopher. But you can't compare neuroderm with leprosy,"

Paul shuddered. "The hell I can't! It's worse."

"Ah? Suppose you tell me what makes it worse? List the symptoms for me."

Paul hesitated, listing them mentally. They were: discoloration of the skin, low fever, hallucinations, and the insane craving to infect others. They seemed bad enough, so he listed them orally. "Of course, people don't die of it," he added. "But which is worse, insanity or death?"

The priest turned to smile back at him through the porthole. "Would you call me insane? It's true that victims have frequently lost their minds. But that's not a direct result of neuroderm. Tell me, how would you feel if everyone screamed and ran when they saw you coming, or hunted you down like a criminal? How long would your sanity last?"

Paul said nothing. Perhaps the anathema was a contributing factor-

"Unless you were of very sound mind to begin with, you probably couldn't endure it."

"But the craving… and the hallucinations…"

"True," murmured the priest thoughtfully. "The hallucinations. Tell me something else, if all the world was blind save one man, wouldn't the world be inclined to call that man's sight a hallucination? And the man with eyes might even come to agree with the world,"

Again Paul was silent. There was no arguing with Men-delhaus,

who probably suffered the strange delusions and thought them real.

"And the craving," the priest went on. "It's true that the craving can be a rather unpleasant symptom. It's the condition's way of perpetuating itself. Although we're not certain how it works, it seems able to stimulate erotic sensations in the hands. We do know the microorganisms get to the brain, but we're not yet sure what they do there."

"What facts have you discovered?" Paul asked cautiously.

Mendelhaus grinned at him. "Tut! I'm not going to tell you, because I don't want to be called a 'crazy dermie.' You wouldn't believe me, you see."

Paul glanced outside and saw that they were approaching the vicinity of the fishing cottage, He pointed out the lamplit window to the driver, and the ambulance turned onto a side road. Soon they were parked behind the shanty. The priests scrambled out and carried the stretcher toward the light, while Paul skulked to a safer distance and sat down in the grass to watch. When Willie was safe in the vehicle, he meant to walk back to the bridge, swim across the gap, and return to the mainland.

Soon Mendelhaus came out and walked toward him with a solemn stride, although Paul was sitting quietly in the deepest shadow-invisible, he had thought. He arose quickly as the priest approached. Anxiety tightened his throat, "Is she… is Willie…?"

"She's irrational," Mendelhaus murmured sadly. "Almost…, less than sane. Some of it may be due to high fever, but…"

"Yes?"

"She tried to kill herself. With a knife. Said something about buckshot being the best way, or something…"

"Jeezis! Jeezis!" Paul sank weakly in the grass and covered his face with his hands,

"Blessed be His Holy Name," murmured the priest by way of turning the oath aside. "She didn't hurt herself badly, though. Wrist's cut a little. She was too weak to do a real job of it, Father Will's giving her a hypo and a tetanus shot and some sulfa. We're out of penicillin."

He stopped speaking and watched Paul's wretchedness for a moment, "You love the girl, don't you?"

Paul stiffened. "Are you crazy? Love a little tramp dermie? Jeezis…,"

"Blessed be-"

"Listen! Will she be all right? I'm getting out of here!" He climbed unsteadily to his feet,

"I don't know, son, infection's the real threat, and shock. If we'd got to her sooner, she'd have been safer. And if she was in the ultimate stage of neuroderm, it would help."

"Why?"

"Oh, various reasons. You'll learn, someday. But listen, you look exhausted. Why don't you come back to the hospital with us? The third floor is entirely vacant. There's no danger of infection up there, and we keep a sterile room ready just in case we get a nonhyper case. You can lock the door inside, if you want to, but it wouldn't be necessary. Nuns are on the floor below. Our male staff lives in the basement. There aren't any laymen in the building. I'll guarantee that you won't be bothered."

"No, I've got to go," he growled, then softened his voice: "I appreciate it though, Father "

"Whatever you wish. I'm sorry, though. You might be able to provide yourself with some kind of transportation if you waited."

"Uh-uh! I don't mind telling you, your island makes me jumpy."

"Why?"

Paul glanced at the priest's gray hands, "Well… you still feel the craving, don't you?"

Mendelhaus touched his nose. "Cotton plugs, with a little camphor. I can't smell you." He hesitated. "No, I won't lie to you. The urge to touch is still there to some extent."

"And in a moment of weakness, somebody might-"

The priest straightened his shoulders. His eyes went chilly. "I have taken certain vows, young man. Sometimes when I see a beautiful woman, I feel desire. When I see a man eating a thick steak on a fast-day, I feel envy and hunger. When I see a doctor earning large fees, I chafe under the vow of poverty. But by denying desire's demands, one learns to make desire useful in other ways. Sublimation, some call it. A priest can use it and do more useful work thereby. I am a priest."

He nodded curtly, turned on his heel and strode away. Halfway to the cottage, he paused. "She's calling for someone named Paul. Know who it might be? Family perhaps?"

Paul stood speechless. The priest shrugged and continued toward the lighted doorway.

"Father, wait…"

"Yes?"

"I-I am a little tired. The room… I mean, will you show me where to get transportation tomorrow?"

"Certainly."

Before midnight, the party had returned to the hospital. Paul lay on a comfortable mattress for the first time in weeks, sleepless, and staring at the moonlight on the sill. Somewhere downstairs, Willie was lying unconscious in an operating room, while the surgeon tried to repair the torn tendon. Paul had ridden back with them in the ambulance, sitting a few feet from the stretcher, avoiding her

sometimes wandering arms, and listening to her delirious moaning.

Now he felt his skin crawling with belated hypochondria.

What a fool he had been-touching the rope, the boat, the wheelbarrow, riding in the ambulance. There were a thousand ways he could have picked up a few stray microorganisms lingering from a dermie's touch. And now he lay here in this nest of disease…

But strange-it was the most peaceful, the sanest place he'd seen in months. The religious orders simply accepted the plague-with masochistic complacency perhaps-but calmly. A cross, or a penance, or something. But no, they seemed to accept it almost gladly. Nothing peculiar about that. All der-mies went wild-eyed with happiness about the "lovely desire" they possessed. The priests weren't wild-eyed

Neither was normal man equipped with socially shaped sexual desire. Sublimation?

"Peace," he muttered, and went to sleep.

A knocking at the door awoke him at dawn. He grunted at it disgustedly and sat up in bed. The door, which he had forgotten to lock, swung open, A chubby nun with a breakfast tray started into the room. She saw his face, then stopped. She closed her eyes, wrinkled her nose, and framed a silent prayer with her lips. Then she backed slowly out.

"I'm sorry, sir!" she quavered through the door, "I-I knew there was a patient in here, but I didn't know… you weren't a hyper. Forgive me."

He heard her scurrying away down the hall. Somehow, he began to feel safe. But wasn't that exactly what they wanted him to feel? He realized suddenly that he was trapped. He had left the shotgun in the emergency room. What was he- guest or captive? Months of fleeing from the gray terror had left him suspicious.

Soon he would find out. He arose and began dressing. Before he finished, Mendelhaus came. He did not enter, but stood in the hallway beyond the door. He smiled a faint greeting, and said, "So you're Paul?"

He felt heat rising in his face. "She's awake, then?" he asked gruffly.

The priest nodded. "Want to see her?"

"No, I've got to be going."

"It would do her good."

He coughed angrily. Why did the black-cassocked dermie have to put it that way? "Well it wouldn't do me any good!" he snarled. "I've been around too many gray-leather hides already!"

Mendelhaus shrugged, but his eyes bore a hint of contempt. "As you wish. You may leave by the outside stairway- to avoid disturbing the sisters."

"To avoid being touched, you mean!"

"No one will touch you."

Paul finished dressing in silence. The reversal of attitudes disturbed him. He resented the seeming "tolerance" that was being extended him. It was like asylum inmates being "tolerant" of the psychiatrist.

"I'm ready!" he growled.

Mendelhaus led him down the corridor and out onto a sunlit balcony. They descended a stone stairway while the priest talked over his shoulder.

"She's still not fully rational, and there's some fever. It wouldn't be anything to worry about two years ago, but now we're out of most of the latest drugs. If sulfa won't hold the infection, we'll have to amputate, of course. We should know in two or three days."

He paused and looked back at Paul, who had stopped on the stairway. "Coming?"

"Where is she?" Paul asked weakly. "I'll see her."

The priest frowned. "You don't have to, son. I'm sorry if I implied any obligation on your part. Really, you've done enough. I gather that you saved her life. Very few nonhypers would do a thing like that. I-"

"Where is she?" he snapped angrily.

The priest nodded. "Downstairs. Come on."

As they re-entered the building on the ground floor, the priest cupped his hands to his mouth and called out, "Non-hyper coming! Plug your noses, or get out of the way! Avoid circumstances of temptation!"

When they moved along the corridor, it was Paul who felt like the leper. Mendelhaus led him into the third room.

Willie saw him enter and hid her gray hands beneath the sheet. She smiled faintly, tried to sit up, and failed. Williamson and a nun-nurse who had both been standing by the bedside turned to leave the room. Mendelhaus followed them out and closed the door.

There was a long, painful pause. Willie tried to grin. He shuffled his feet.

"They've got me in a cast," she said conversationally.

"You'll be all right," he said hastily. "It won't be, long before you'll be up. Galveston's a good place for you. They're all dermies here."

She clenched her eyes tightly shut, "God! God! I hope I never hear that word again. After last night… that old woman in the rocking chair… I stayed there alt alone… and the wind'd start the chair rocking. Ooh!" She looked at him with abnormally bright eyes. "I'd rather die than touch anybody now…after seeing that. Somebody touched her, didn't they, Paul? That's why she did it, wasn't it?"

He squirmed and backed toward the door. "Willie… I'm sorry for

what I said. I mean-"

"Don't worry, Paul! I wouldn't touch you now." She clenched her hands and brought them up before her face, to stare at them with glittering hate. "I loathe myself!" she hissed.

What was it Mendelhaus had said, about the dermie going insane because of being an outcast rather than because of the plague? But she wouldn't be an outcast here. Only among nonhypers, like himself…"

"Get well quick, Willie," he muttered, then hurriedly slipped out into the corridor. She called his name twice, then fell silent.

"That was quick," murmured Mendelhaus, glancing at his pale face.

"Where can I get a car?"

The priest rubbed his chin. "I was just speaking td Brother Matthew about that. Uh… how would you like to have a small yacht instead?"

Paul caught his breath, A yacht would mean access to the seas, and to an island. A yacht was the perfect solution. He stammered gratefully,

"Good," said Mendelhaus. "There's a small craft in dry dock down at the basin. It was apparently left there because there weren't any dock crews around to get her afloat again. I took the liberty of asking Brother Matthew to find some men and get her in the water."

"Dermies?"

"Of course. The boat will be fumigated, but it isn't really necessary. The infection dies out in a few hours. It'll take a while, of course, to get the boat ready. Tomorrow… next day, maybe. Bottom's cracked; it'll need some patching."

Paul's smile weakened. More delay. Two more days of living in the gray shadow. Was the priest really to be trusted?

Why should he even provide the boat? The jaws of an invisible trap, slowly closing.

Mendelhaus saw his doubt, "If you'd rather leave now, you're free to do so. We're really not going to as much trouble as it might seem. There are several yachts at the dock; Brother Matthew's been preparing to clean one or two up for our own use. And we might as well let you have one. They've been deserted by their owners. And… well… you helped the girl when nobody else would have done so. Consider the boat as our way of returning the favor, eh?"

A yacht. The open sea. A semitropical island, uninhabited, on the brink of the Caribbean. And a woman, of course- chosen from among the many who would be willing to share such an escape. Peculiarjy, he glanced at Willie's door. It was too bad about her. But she'd get along okay. The yacht"… if he were only certain of Mendelhaus' intentions…

The priest began frowning at Paul's hesitation. "Well?"

"I don't want to put you to any trouble-"

"Nonsense! You're still afraid of us! Very well, come with me. There's someone I want you to see." Mendelhaus turned and started down the corridor.

Paul lingered. "Who…what-"

"Come on!" the priest snapped impatiently.

Reluctantly, Paul followed him to the stairway. They descended to a gloomy basement and entered a smelly laboratory through a double-door. Electric illumination startled him; then he heard the sound of a gasoline engine and knew that the power was generated locally.

"Germicidal lamps," murmured the priest, following his ceilingward gaze. "Some of them are. Don't worry about touching things. It's sterile in here."

"But it's not sterile for your convenience," growled an invisible voice. "And it won't be sterile at all if you don't stay out! Beat it, preacher!"

Paul looked for the source of the voice, and saw a small, short-necked man bending his shaggy gray head over a microscope at the other end of the lab. He had spoken without glancing up at his visitors.

"This is Doctor Seevers, of Princeton, son," said the priest, unruffled by the scientist's ire. "Claims he's an atheist, but personally I think he's a puritan. Doctor, this is the young man I was telling you about. Will you tell him what you know about neuroderm?"

Seevers jotted something on a pad, but kept his eye to the instrument. "Why don't we just give it to him, and let him find out for himself?" the scientist grumbled sadistically.

"Don't frighten him, you heretic! I brought him here to be illuminated."

"Illuminate him yourself. I'm busy. And stop calling me names. I'm not an atheist; I'm a biochemist."

"Yesterday you were a biophysicist. Now, entertain my young man." Mendelhaus blocked the doorway with his body. Paul, with his jaw clenched angrily, had turned to leave.

"That's all I can do, preacher," Seevers grunted. "Entertain him. I know nothing. Absolutely nothing. I have some observed data. I have noticed some correlations. I have seen things happen, I have traced the patterns of the happenings and found some probable common denominators. And that is all! I admit it. Why don't you preachers admit it in your racket?"

"Seevers, as you can see, is inordinately proud of his humility-if that's not a paradox," the priest said to Paul.

"Now, Doctor, this young man-"

Seevers heaved a resigned sigh. His voice went sour-sweet. "All right, sit down, young man. I'll entertain you as soon as I get through counting free nerve-endings in this piece of skin."

Mendelhaus winked at his guest. "Seevers calls it masochism when we observe a fast-day or do penance. And there he site, ripping off patches of his own hide to look at through his peeping glass. Masochism-hen!"

"Get out, preacher!" the scientist bellowed.

Mendelhaus laughed mockingly, nodded Paul toward a chair, and left the lab. Paul sat uneasily watching the back of Seevers' lab jacket.

"Nice bunch of people really-these black-frocked yahoos," Seevers murmured conversationally. "If they'd just stop trying to convert me."

"Doctor Seevers, maybe I'd better-"

"Quiet! You bother me. And sit still. I can't stand to have people running in and out of here. You're in; now stay in."

Paul fell silent. He was uncertain whether or not Seevers was a dermie. The small man's lab jacket bunched up to hide the back of his neck, and the sleeves covered his arms. His hands were rubber-gloved, and a knot of white cord behind his head told Paul that he was wearing a gauze mask. His ears were bright pink, but their color was meaningless; it took several months for the gray coloring to seep to all areas of the skin. But Paul guessed he was a dermie-and wearing the gloves and mask to keep his equipment sterile.

He glanced idly around the large room. There were several glass cages of rats against the wall. They seemed airtight, with ducts for forced ventilation. About half the rats were afflicted with neuroderm in its various stages, A few wore shaved patches of skin where the disease had been freshly and forcibly inflicted. Paul caught the fleeting impression that several of the animals were staring at him fixedly. He shuddered and looked away.

He glanced casually at the usual maze of laboratory glassware, then turned his attention to a pair of hemispheres, suspended like a trophy on the wall. He recognized them as the twin halves of one of the meteorites, with the small jelly-pocket in the center. Beyond it hung a large picture frame containing several typewritten sheets. Another frame held four pictures of bearded scientists from another century, obviously clipped from magazine or textbook. There was nothing spectacular about the lab. It smelted of clean dust and sour things. Just a small respectable workshop,

Seevers' chair creaked suddenly. "It checks," he said to himself. "It checks again. Forty per cent increase," He threw down the stub pencil and whirled suddenly. Paul saw a pudgy round face with glittering eyes. A dark splotch of neuroderm had crept up from the chin to split his mouth and cover one cheek and an eye, giving him the appearance

of a black and white bulldog with a mixed color muzzle.

"It checks," he barked at Paul, then smirked contentedly,

"What checks?"

The scientist rolled up a sleeve to display a patch of adhesive tape on a portion of his arm which had been discolored by the disease. "Here," he grunted. "Two weeks ago this area was normal. I took a centimeter of skin from right next to this one, and counted the nerve endings. Since that time, the derm's crept down over the area. I took another square centimeter today, and recounted. Forty per cent increase."

Paul frowned with disbelief. It was generally known that neuroderm had a sensitizing effect, but new nerve endings… No. He didn't believe it.

"Third time I've checked it," Seevers said happily. "One place ran up to sixty-five per cent, Heh! Smart little bugs, aren't they? Inventing new somesthetic receptors that way!"

Paul swallowed with difficulty. "What did you say?" he gasped.

Seevers inspected him serenely, "So you're a nonhyper, are you? Yes, indeed, I can smell that you are. Vile, really. Can't understand why sensible hypers would want to paw you. But then, I've insured myself against such foolishness."

He said it so casually that Paul blinked before he caught the full impact of it. "Y-y-you've done what?"

"What I said. When I first caught it , I simply sat down with a velvet-tipped stylus and located the spots on my hands that gave rise to pleasurable sensations. Then I burned them out with an electric needle. There aren't many of them, really-one or two points per square centimeter." He tugged off his gloves and exhibited pick-marked palms to prove it.

"I didn't want to be bothered with such silly urges. Waste of time, chasing nonhypers-for me it is. I never learned what it's like, so I've never missed it." He turned his hands over and stared at them. "Stubborn little critters keep growing new ones. and I keep burning them out."

Paul leaped to his feet, "Are you trying to tell me that the plague causes new nerve cells to grow?"

Seevers looked up coldly. "Ah, yes. You came here to be illoooominated, as the padre put it. If you wish to be de-idiotized, please stop shouting, Otherwise, I'll ask you to leave."

Paul, who had felt like leaving a moment ago, now subsided quickly. "I'm sorry," he snapped, then softened his tone to repeat: "I'm sorry,"

Seevers took a deep breath, stretched his short meaty arms in an unexpected yawn, then relaxed and grinned, "Sit down, sit down,

m'boy. Ill tell you what you want to know, if you really want to know anything. Do you?"

"Of course!"

"You don't! You just want to know how you-whatever your name is-will be affected by events. You don"t care about understanding for its own sake. Few people do. That's why we're in this mess. The padre now, he cares about understanding events-but not for their own sake. He cares, bat for his flock's sake for his God's sake-which is, I must admit, a better attitude than that of the common herd, whose only interest is in their own safety. But if people would just want to understand events for the understanding's sake, we wouldn't be in such a pickle."

Paul watched the professor's bright eyes and took the lecture quietly.

"And so, before I illuminate you, I want to make an impossible request."

"Yes, sir."

"I ask you to be completely objective," Seevers continued, rubbing the bridge of his nose and covering his eyes with his hand. "I want you to forget you ever heard of neuroderm while you listen to me. Rid yourself of all preconceptions, especially those connected with fear. Pretend these are purely hypothetical events that I'm going to discuss." He took his hands down from his eyes and grinned sheepishly. "It always embarrasses me to ask for that kind of cooperation when I know damn well I'll never get it."

"I'll try to be objective, sir."

"Bah!" Seevers slid down to sit on his spine, and hooked the base of his skull over the back of the chair. He blinked thoughtfully at the ceiling for a moment, then folded his hands across his small paunch and closed his eyes.

When he spoke again, he was speaking to himself: "Assume a planet, somewhat earthlike, but not quite. It has carboniferous life forms, but not human. Warm-blooded, probably, and semi-intelligent. And the planet has something else-it has an overabundance of parasite forms. Actually, the various types of parasites are the dominant species. The warm-blooded animals are the parasites' vegetables, so to speak. Now, during two billion years, say, of survival contests between parasite species, some parasites are quite likely to develop some curious methods of adaptation. Methods of insuring the food supply-animals, who must have been taking a beating."

Seevers glanced down from the ceiling. "Tell me, youngster, what major activity did Man invent to secure his vegetable food supply?"

"Agriculture?"

"Certainly. Man is a parasite, as far as vegetables are concerned.

But he learned to eat his cake and have it, too. He learned to perpetuate the species he was devouring. A very remarkable idea, if you stop to think about it. Very!"

"I don't see-"

"Hush! Now, let's suppose that one species of micropar-asites on our hypothetical planet learned, through long evolutionary processes, to stimulate regrowth in the animal tissue they devoured. Through exuding controlled amounts of growth hormone, I think. Quite an advancement, eh?"

Paul had begun leaning forward tensely.

"But it's only the first step. It let the host live longer, although not pleasantly, I imagine. The growth control would be clumsy at first. But soon, all parasite-species either learned to do it, or died out. Then came the contest for the best kind of control. The parasites who kept their hosts in the best physical condition naturally did a better job of survival-since the parasite-ascendancy had cut down on the food supply, just as Man wastes his own resources. And since animals were contending among themselves for a place in the sun, it was to the parasite's advantage to help insure the survival of his host-species-through growth control."

Seevers winked solemnly. "Now begins the downfall of the parasites-their decadence. They concentrated all their efforts along the lines of… uh… scientific farming, you might say. They began growing various sorts of defense and attack weapons for their hosts-weird bio-devices, perhaps. Horns, swords, fangs, stingers, poison-throwers-we can only guess. But eventually, one group of parasites hit upon-what?"

Paul, who was beginning to stir uneasily, could only stammer. Where was Seevers getting all this?

"Say it!" the scientist demanded.

"The… nervous system?"

"That's- right. You don't need to whisper it. The nervous system. It was probably an unsuccessful parasite at first, because nerve tissue grows slowly. And it's a long stretch of evolution between a microspecies which could stimulate nerve growth and one which could direct utilize growth for the host's advantage-and for its own. But at last, after a long struggle, our little species gets there. It begins sharpening the hosfs senses, building up complex senses from aggregates of old-style receptors, and increasing the host's intelligence within limits."

Seevers grinned mischievously. "Conies a planetary shake-up of the first magnitude. Such parasites would naturally pick the host species with the highest intelligence to begin with. With the extra boost, this brainy animal quickly down its own enemies, and

consequently the enemies of its microbenefactor. It puts itself in much the same position that Man's in on Earth-lord it over the beasts, divine right to run the place, and all that. Now understand-it's the animal who's become intelligent, not the parasites. The parasites are operating on complex instinct patterns,, like a hive of bees. They're wonderful neurological engineers-like bees are good structural engineers; blind instinct, accumulated through evolution."

He paused to light a cigarette. "If you feel ill, young man, there's drinking water in that bottle. You look ill."

"I'm all right!"

"Well, to continue: The intelligent animal became master of his planet. Threats to his existence were overcome-unless he was a threat to himself, like we are. But now, the parasites had found a safe home. No new threats to force readaptation. They sat back and sighed and became stagnant-as unchanging as horseshoe crabs or amoeba or other Earth ancients. They kept right on working in their neurological beehives, and now they became cultivated by the animal, who recognized their benefactors. They didn't know it, but they were no longer the dominant species. They had insured their survival by leaning on their animal prop, who now took care of them with godlike charity-and selfishness. The parasites had achieved biological heaven. They kept on working, but they stopped fighting. The host was their welfare state, you might say. End of a sequence."

He blew a long breath of smoke and leaned forward to watch Paul, with casual amusement. Paul suddenly realized that he was sitting on the edge of his chair and gaping. He forced a relaxation.

"Wild guesswork," he breathed uncertainly.

"Some of it's guesswork," Seevers admitted. "But none of it's wild. There is supporting evidence. It's in the form of a message."

"Message?"

"Sure. Come, I'll show you." Seevers arose and moved toward the wall. He stopped before the two hemispheres. "On second thought, you better show yourself. Take down that sliced meteorite, will you? It's sterile."

Paul crossed the room, climbed unsteadily upon a bench, and brought down the globular meteorite. It was the first time he had examined one of the things, and he inspected it curiously. It was a near-perfect sphere, about eight inches in diameter, with a four-inch hollow in the center. The globe was made up of several concentric shells, tightly fitted, each apparently of a different metal. It was not seemingly heavier than aluminum, although the outer shell was obviously of tough steel.

"Set it face down," Seevers told him. "Both halves. Give it a quick little twist. The shells will come apart. Take out the center shell-the

hard, thin one between the soft protecting shells."

"How do you know their purposes?" Paul growled as he followed instructions. The shells came apart easily.

"Envelopes are to protect messages," snorted Seevers,

Paul sorted out the hemispheres, and found two mirror-polished cells of paper-thin tough metal. They bore no inscription, either inside or out. He gave Seevers a puzzled frown,

"Handle them carefully while they're out of the protectors. They're already a little blurred…"

"I don't see any message."

"There's a small bottle of iron filings in that drawer by your knee. Sift them carefully over the outside of the shells. That powder isn't fine enough, really, but it's the best I could do. Felger had some better stuff up at Princeton, before we all got out. This'business wasn't my discovery, incidentally."

Baffled, Paul found the iron filings and dusted the mirror-shells with the powder. Delicate patterns appeared-latitudinal circles, etched in iron dust and laced here and there with diagonal lines. He gasped. It looked like the map of a planet.

"I know what you're thinking," Seevers said. "That's what we thought too, at first. Then Felger came up with this very fine dust. Fine as they are, those lines are rows of pictograph symbols. You can make them out vaguely with a good reading glass, even with this coarse stuff. It's magnetic printing- like two-dimensional wire-recording. Evidently, the animals that printed it had either very powerful eyes, or a magnetic sense."

"Anyone understand it?"

"Princeton staff was working on it when the world went crazy. They figured out enough to guess at what I've just told you. They found five different shell-messages among a dozen or so spheres. One of them was a sort of a key. A symbol equated to a diagram of a carbon atom, Another symbol equated to a pi in binary numbers. Things like that-about five hundred symbols, in fact. Some we couldn't figure. Then they defined other symbols by what amounted to blank-filling quizzes. Things like-'A star is…' and there would be the unknown symbol. We would try to decide whether it meant 'hot,' 'white,' 'huge,' and so forth."

"And you managed it?"

"In part. The ruthless way in which the missiles were opened destroyed some of the clarity The senders were guilty of their own brand of anthropomorphism. They projected their own psychology on us. They expected us to open the things shell by shell, cautiously, and figure out the text before we went further. Heh! What happens? Some machinist grabs one, shakes it, weighs it, sticks it on a lathe, and-

brrrrrr! Our curiosity is still rather apelike. Stick our arm in a gopher hole to see if there's a rattlesnake inside."

There was a long silence while Paul stood peering over the patterns on the shell. "Why haven't people heard about this?" he asked quietly.

"Heard about it!" Seevers roared. "And how do you propose to tell them about it?"

Paul shook his head. It was easy to forget that Man had scurried away from his presses and his broadcasting stations and his railroads, leaving his mechanical creatures to sleep in their own rust while he fled like a bee-stung bear before the strange terror.

"What, exactly, do the patterns say, Doctor?"

"I've told you some of it-the evolutionary origin of the neuroderm parasites. We also pieced together their reasons for launching the missiles across space-several thousand years ago. Their sun was about to flare into a supernova. They worked out a theoretical space-drive, but they couldn't fuel it-needed some element that was scarce in their system. They could get to their outer planet, but that wouldn't help much. So they just cultured up a batch of their parasite-benefactors, rolled them into these balls, and fired them like charges of buckshot at various stars. Interception-course, naturally. They meant to miss just a little, so that the projectiles would swing into long elliptical orbits around the suns-close enough in to intersect the radiational 'life-belt' and eventually cross paths with planets whose orbits were near-circular. Looks like they hit us on the first pass."

"You mean they weren't aiming at Earth in particular?"

"Evidently not. They couldn't know we were here. Not at a range like that. Hundreds of light-years. They just took a chance on several stars. Shipping off their pets was sort of a last-ditch stand against extinction-symbolic, to be sure- but a noble gesture, as far as they were concerned. A giving away of part of their souls. Like a man writing his will and leaving his last worldly possession to some unknown species beyond the stars. Imagine them standing there-watching the projectiles being fired out toward deep space. There goes their inheritance, to as unknown heir, or perhaps to no one. The little creatures that brought them up from beasthood,"

Seevers paused, staring up at the sunlight beyond the high basement window. He was talking to himself again, quietly: "You can see them turn away and silently go back… to wait for their collapsing sun to reach the critical point, the detonating point. They've left their last mark-a dark and uncertain benediction to the cosmos."

"You're a fool, Seevers," Paul grunted suddenly.

Seevers whirled, whitening. His hand darted out forgetfully toward the young man's arm, but he drew it back as Paul sidestepped.

"You actually regard this thing as desirable, don't you?" Paul asked. "You can't see that you're under its effect. Why does it affect people that way? And you say I can't be objective."

The professor smiled coldly. "I didn't say it's desirable. I was simply pointing out that the beings who *sent* it it as desirable. They were making some unwarranted assumptions."

"Maybe they just didn't care."

"Of course they cared. Their fallacy was that we would open it as they would have done-cautiously. Perhaps they couldn't see how a creature could be both brash and intelligent. They meant for us to read the warning on the shells before we went further."

"Warning…?"

Seevers smiled bitterly. "Yes, warning. There was one group of oversized symbols on all the spheres. See that pattern on the top ring? It says, in effect-'Finder-creatures, you who destroy your own people-if you do this thing, then destroy this container without penetrating deeper. If you are self-destroyers then the contents will only help to destroy you.'"

There was a frigid silence.

"But somebody would have opened one anyway," Paul protested.

Seevers turned his bitter smile on the window. "You couldn't be more right. The senders just didn't foresee our monkey-minded species. If they saw Man digging out the nuggets, braying over them, chortling over them, cracking them like walnuts, then turning tail to run howling for the forests-well, they'd think twice before they fired another round of their celestial buckshot."

"Doctor Seevers, what do you think will happen now? To the world, I mean?"

Seevers shrugged. "I saw a baby born yesterday-to a woman down the island. It was fully covered with neuroderm at birth. It has some new sensory equipment-small pores in the fingertips, with taste buds and olfactory cells in them, Also a nodule above each eye sensitive to infrared."

Paul groaned.

"It's not the first case. Those things are happening to adults, too, but you have to have the condition for quite a while. Brother Thomas has the finger pores already. Hasn't learned to use them yet, of course. He gets sensations from them, but the receptors aren't connected to olfactory and taste centers of the brain. They're still linked with the somesthetic interpretive centers. He can touch various substances and get different perceptive combinations of heat, pain, cold, pressure, and so forth. He says vinegar feels ice-cold, quinine sharp-hot, cologne warm-velvet-prickly, and… he blushes when he touches a musky perfume."

Paul laughed, and the hollow sound startled him.

"It may be several' generations before we know all that will happen," Seevers went on. "I've examined sections of rat brain and found the microorganisms. They may be working at rerouting these new receptors to proper brain areas. Our grandchildren-if Man's still on Earth by then-can perhaps taste-analyze substances by touch, qualitatively determine the contents of a test tube by sticking a finger in it. See a warm radiator in a dark room-by infrared. Perhaps there'll be some ultraviolet sensitization. My rats are sensitive to it."

Paul went to the rat cages and stared in at three gray pelted animals that seemed larger than the others. They retreated against the back wall and watched him warily. They began squeaking and exchanging glances among themselves.

"Those are third-generation hypers," Seevers told him. "They've developed a simple language. Not intelligent by human standards, but crafty. They've learned to use their sensory equipment. They know when I mean to feed them, and when I mean to take one out to kill and dissect. A slight change in my emotional odor, I imagine. Learning's a big hurdle, youngster. A hyper with finger pores gets sensations from them, but it takes a long time to attach meaning to the various sensations-through learning. A baby gets visual sensations from his untrained eyes-but the sensation is utterly without significance until he associates milk with white mother with a face shape, and so forth."

"What will happen to the brain?" Paul breathed.

"Not too much, I imagine, I haven't observed much happening. The rats show an increase in intelligence, but not in brain size. The intellectual boost apparently comes from an ability to perceive things in terms of more senses. Ideas, concepts, precepts-are made of memory collections of past sensory experiences. An apple is red, fruity-smelling, sweet-acid flavored-that's your sensory idea of an apple. A blind man without a tongue couldn't form such a complete idea. A hyper, on the other hand, could add some new adjectives that you couldn't understand. The fully developed hyper-I'm not one yet-has more sensory tools with which to grasp ideas. When he learns to use them, he'll be mentally more efficient. But there's apparently a hitch.

"The parasite's instinctive goal is to insure the host's survival. That's the substance of the warning. If Man has the capacity to work together, then the parasites will help him shape his environment. If Man intends to keep fighting with his fellows, the parasite will help him do a better job of that, too. Help him destroy himself more efficiently."

"Men have worked together-"

"In small tribes," Seevers interrupted. "Yes, we have group spirit. Ape-tribe spirit, not race spirit."

Paul moved restlessly toward the door. Seevers had turned to watch him with a cool smirk.

"Well, you're illuminated, youngster. Now what do you intend to do?"

Paul shook his head to scatter the confusion of ideas. "What can anyone do? Except run. To an island, perhaps."

Seevers hoisted a cynical eyebrow. "Intend taking the condition with you? Or will you try to stay nonhyper?"

'Take… are you crazy? I mean to stay healthy?"

"That's what I thought. If you were objective about this, you'd give yourself the condition and get it over with. I did. You remind me of a monkey running away from *a* hypodermic needle. The hypo has serum health-insurance in it, but the needle looks sharp. The monkey chatters with fright."

Paul stalked angrily to the door, then paused. "There r s a girl upstairs, a dermie. Would you-"

"Tell her all this? I always brief new hypers. It's one of my duties around this ecclesiastical leper ranch. She's on the verge of insanity, I suppose. They all are, before they get rid of the idea that they're damned souls. What's she to you?"

Paul strode out into the corridor without answering. He felt physically ill. He hated Seevers' smug bulldog face with a violence that was unfamiliar to him. The man had given the plague to himself! So he said. But was it true? Was any of it true? To claim that the hallucinations were new sensory phenomena, to pose the plague as possibly desirable-Seevers had no patent on those ideas. Every dermie made such claims; it was a symptom. Seevers had simply invented clever rationalizations to support his delusions, and Paul had been nearly taken in. Seevers was clever. *Do you mean to take the condition with you when you go?* Wasn't that just another way of suggesting, "Why don't you allow me to touch you?" Paul was shivering as he returned to the third-floor room to recoat himself with the pungent oil. Why not leave now? he thought.

But he spent the day wandering along the waterfront, stopping briefly at the docks to watch a crew of monks scrambling over the scaffolding that surrounded the hulls of two small sea-going vessels. The monks were caulking split seams and trotting along the platforms with buckets of tar and paint. Upon inquiry, Paul learned which of the vessels was intended for his own use. And he put aside all thoughts of immediate departure.

She was a fifty-footer, a slender craft with a weighted fin-keel that would cut too deep for bay navigation. Paul guessed that the

colony wanted only a flat-bottomed vessel for hauling passengers and cargo across from the mainland. They would have little use for the trim seaster with the lines of a baby destroyer. Upon closer examination, he guessed that it had been a police boat, or Coast Guard craft. There was a gun-mounting on the forward deck, minus the gun. She was built for speed, and powered by diesels, and she could be provisioned for a nice long cruise.

Paul went to scrounge among the warehouses and locate a stock of supplies. He met an occasional monk or nun, bat the gray-skinned monastics seemed only desirous of avoiding him. The dermie desire was keyed principally, by smell, and the deodorant oil helped preserve him from their affections. Once he was approached by a wild-eyed layman who startled him amidst a heap of warehouse crates. The dermie was almost upon him before Paul heard the footfall. Caught without an escape route, and assailed by startled terror, he shattered the man's arm with a shotgun blast, then fled from the warehouse to escape the dermie's screams.

Choking with shame, he found a dermie monk and sent him to care for the wounded creature. Paul had shot at other plague victims when there was no escape, but never with intent to kill. The man's life had been spared only by hasty aim.

"It was self-defense t " he reminded himself.

But defense against what? Against the inevitable?

He hurried back to the hospital and found Mendelhaus outside the small chapel. "I better not wait for your boat," he told the priest. "I just shot one of your people. I better leave before it happens again."

Mendelhaus' thin lips tightened, "You shot-"

"Didn't kill him," Paul explained hastily. "Broke his arm. One of the brothers is bringing him over. I'm sorry, Father, but he jumped me."

The priest glanced aside silently, apparently wrestling against anger, "I'm glad you told me," he said quietly. "I suppose you couldn't help it. But why did you leave the hospital? You're safe here. The yacht will be provisioned for you. I suggest you remain in your room until it's ready. I won't vouch for your safety any farther than the building." There was a tone of command in his voice, and Paul nodded slowly. He started away.

"The young lady's been asking for you," the priest called after him.

Paul stopped. "How is she?"

"Over the crisis, I think. Infection's down. Nervous condition not so good. Deep depression. Sometimes she goes a little hysterical." He paused, then lowered his voice, "You're at the focus of it, young man. Sometimes she gets the idea that she touched you, and then sometimes she raves about how she wouldn't do it."

Paul whirled angrily, forming a protest, but the priest continued: "Seevers talked to her, and then a psychologist- one of oar sisters. It seemed to help some. She's asleep now, I don't know how much of Seevers' talk she understood, however. She's dared-combined effects of pain, shock, infection, guilt feelings, fright, hysteria-and some other things, Morphine doesn't make her mind any clearer. Neither does the fact that she thinks you're avoiding her."

"It's the plague I'm avoiding!" Paul snapped. "Not her."

Mendelhaus chuckled mirthlessly. "You're talking to me, aren't you?" He turned and entered the chapel through a swinging door. As the door fanned back and forth, Paul caught a glimpse of a candlelit altar and a stark wooden crucifix, and a sea of monk-robes flowing over the pews, waiting for the celebrant priest to enter the sanctuary and begin the Sacrifice of the Mass. He realized vaguely that it was Sunday.

Paul wandered back to the main corridor and found himself drifting toward Willie's room. The door was ajar, and he stopped short lest she see him. But after a moment he inched forward until he caught a glimpse of her dark mass of hair unfurled across the pillow. One of the sisters had combed it for her, and it spread in dark waves, gleaming in the candlelight. She was still asleep. The candle startled him for an instant-suggesting a deathbed and the sacrament of the dying. But a dogeared magazine lay beneath it; someone had been reading to her.

He stood in the doorway, watching the slow rise of her breathing. Fresh, young, shapely-even in the crude cotton gown they had given her, even beneath the blue-white pallor of her skin-soon to become gray as a cloudy sky in a wintery twilight. Her lips moved slightly, and he backed a step away. They paused, parted moistly, showing thin white teeth. Her delicately carved face was thrown back slightly on the pillow. There was a sudden tightening of her jaw.

A weirdly pitched voice floated unexpectedly from down the hall, echoing the semisinging of Gregorian chant: *"As-perges me, Domine, hyssopo, et mundabor…"* The priest was beginning Mass.

As the sound came, the girl's hands clenched into rigid fists beneath the sheet. Her eyes flared open to stare «wildly at the ceiling. Clutching the bedclothes, she pressed the fists up against her face and cried out: "No! Noooo! God, I won't!"

Paul backed out of sight and pressed himself against the wall. A knot of desolation tightened in his stomach. He looked around nervously. A nun, hearing the outcry, came scurrying down the hall, murmuring anxiously to herself, A plump mother hen in a dozen yards of starched white cloth. She gave him a quick challenging glance and waddled inside.

"Child, my child, what's wrong! Nightmares again?"

He heard Willie breathe a nervous moan of relief. Then her voice, weakly-"They… they made me… touch… Ooo, God! I want to cut off my hands!"

Paul fled, leaving the nun's sympathetic reassurance to fade into a murmur behind him.

He spent the rest of the day and the night in his room. On the following day, Mendelhaus came with word that the boat was not yet ready. They needed *to* finish caulking and stock it with provisions. But the priest assured him that it should be afloat within twenty-four hours, Paal omild not bring himself to ask about the girl.

A monk brought his food-unopened cans, still steaming from the sterilizer, and on a covered tray. The monk wore gloves and mask, and he had oiled his own skin. There were moments when Paul felt as if he were the diseased and contagious patient from whom the others protected themselves. Like Omar, he thought, wondering-"which is the Potter, pray, and which the Pot?"

Was Man, as Seevers implied, a terrorized ape-tribe fleeing illogically from the gray hands that only wanted to offer a blessing? How narrow was the line dividing blessing from curse, god from demon! The-parasites came in a devil's mask, the mask of disease, "Diseases have often killed me," said Man. "All disease is therefore evil." But was that necessarily true? Fire had often killed Man's club-bearing ancestors, but later came to serve him. Even diseases had been used to good advantage-artificially induced typhoid and malaria to fight venereal infections.

But the gray skin… taste buds in the fingertips… alien microorganisms tampering with the nerves and the brain. Such concepts caused his scalp to bristle. Man-made over to suit the tastes of a bunch of supposedly beneficent parasites-was he still Man, or something else? Little bacteriological farmers imbedded in the skin, raising a crop of nerve cells-eat one, plant two, sow an olfactor in a new field, reshuffle the feeder-fibers to the brain,

Monday brought a cold rain and stiff wind from the Gulf. He watched the water swirling through littered gutters in the street. Sitting in the window, he watched the gloom and waited, praying that the storm would not delay his departure. Mendelhaus smiled politely through his doorway once. "Willie's ankle seems healing nicely," he said. "Swelling's gone down so much we had to change caste. If only she would-"

"Thanks for the free report, Padre," Paul growled irritably.

The priest shrugged and went away.

It was still raining when the sky darkened with evening. The monastic dock-crew had certainly been unable to finish. Tomorrow…

perhaps.

After nightfall, he lit a candle and lay awake watching its unflickering yellow tongue until drowsiness lolled his head aside. He snuffed it out and went to bed.

Dreams assailed him, tormented him, stroked him with dark hands while he lay back, submitting freely. Small hands, soft, cool, tender-touching his forehead and his cheeks, while a voice whispered caresses.

He awoke suddenly to blackness. The feel of the dream-hands was still on his face. What had aroused him? A sound in the hall, a creaking hinge? The darkness was impenetrable. The rain had stopped-perhaps its cessation had disturbed him. He felt curiously tense as he lay listening to the humid, musty corridors. A… faint… rustle… and…

Breathing!. The sound of soft breathing was in the room with him!

He let out a hoarse shriek that shattered the unearthly silence. A high-pitched scream of fright answered him! Prom a few feet away in the room. He groped toward it and fumbled against a bare wall. He roared curses, and tried to find first matches, then the shotgun. At last he found the gun, aimed at nothing across the room, and jerked the trigger. The explosion deafened him. The window shattered, and a sift of plaster rustled to the floor.

The brief flash had illuminated the room. It was empty. He stood frozen. Had he imagined it all? But no, the visitor's startled scream had been real enough.

A cool draft fanned his face. The door was open. Had he forgotten to lock it again? A tumult of sound was beginning to arise from the lower floors. His shot had aroused the sleepers. But there was a closer sound-sobbing in the corridor, and an irregular creaking noise.

At last he found a match and rushed to the door. But the tiny flame revealed nothing within its limited aura. He heard a doorknob rattle in the distance; his visitor was escaping via the outside stairway. He thought of pursuit and vengeance. But instead, he rushed to the washbasin and began scrubbing himself thoroughly with harsh brown soap. Had his visitor touched him-or had the hands been only dream-stuff? He was frightened and sickened.

Voices were filling the corridor. The light of several can-dles was advancing toward his doorway. He turned to see monks' faces peering anxiously inside. Father Mendelhaus shouldered his way through the others, glanced *at* the window, the wall, then at Paul.

"What-"

"Safety, eh?" Paul hissed. "Well, I had a prowler! A woman! I think I've been touched."

The priest turned and spoke to a monk. "Go to the stairway and

call for the Mother Superior. Ask her to make an immediate inspection of the sisters' quarters. If any nuns have been out of their rooms-"

A shrill voice called from down the hallway: "Father, Father! The girl with the injured ankle! She's not in her bed! She's gone!"

"Willie!" Paul gasped.

A small nun with a candle scurried up and panted to recover her breath for a moment. "She's gone, Father. I was on night duty. I heard the shot, and I went to see if it disturbed her. She wasn't there!"

The priest grumbled incredulously. "How could she get out? She can't walk with that cast."

"Crutches, Father. We told her she could get up in a few days. While she was still irrational, she kept saying they were going to amputate her leg. We brought the crutches in to prove she'd be up soon. It's my fault, Father. I should have-"

"Never mind! Search the building for her."

Paul dried his wet skin and faced the priest angrily. "What can I do to disinfect myself?" he demanded.

Mendelhaus called out into the hallway where a crowd had gathered. "Someone please get Doctor Seevers."

"I'm here, preacher," grunted the scientist. The monastics parted ranks to make way for his short chubby body. He grinned amusedly at Paul. "So, you decided to make your home here after all, eh?"

Paul croaked an insult at him. "Have you got any effective-"

"Disinfectants? Afraid not. Nitric acid will do the trick on one or two local spots. Where were you touched?"

"I don't know. I was asleep."

Seevers' grin widened. "Well, you can't take a bath in nitric acid. We'll try something else, but I doubt if it'll work for a direct touch."

"That oil-"

"Uh-uh! That'll do for" exposure-weakened parasites you might pick up by handling an object that's been touched. But with skin-to-skin contact, the bugs're pretty stout little rascals. Come on downstairs, though, we'll make a pass at it,"

Paul followed him quickly down the corridor. Behind him, a soft voice was murmuring: "I just can't understand why nonhypers are so…" Mendelhaus said something to Seevers, blotting out the voice. Paul chafed at the thought that they might consider him cowardly.

But with the herds fleeing northward, cowardice was the social norm. And after a year's flight, Paul had accepted the norm as the only possible way to fight.

Seevers was emptying chemicals into a tub of water in the basement when a monk hurried in to tug at Mendelhaus' sleeve. "Father, the sisters report that the girl's not in the building."

"What? Well, she can't be far! Search the grounds. If she's not

there, try the adjoining blocks."

Paul stopped unbuttoning his shirt. Willie had said some mournful things about what she would rather do than submit to the craving. And her startled scream when he had cried out in the darkness-the scream of someone suddenly awakening to reality-from a daze-world.

The monk left the room. Seevers sloshed more chemicals into the tub. Paul could hear the wind whipping about the basement windows and the growl of an angry surf not so far away. Paul rebuttoned his shirt.

"Which way's the ocean?" he asked suddenly. He backed toward the door.

"No, you fool!" roared Seevers. "You're not going to-*get him,* preacher!"

Paul sidestepped as the priest grabbed for him. He darted outside and began running for the stairs. Mendelhaus bellowed for him to stop.

"Not me!" Paul called back angrily. "Willie!"

Moments later, he was racing across the sodden lawn and into the street. He stopped on the corner to get his bearings. The wind brought the sound of the surf with it. He began running east and calling her name into the night.

The rain had ceased, but the pavement was wet and water gurgled in the gutters. Occasionally the moon peered through the thinning veil of clouds, but its light failed to furnish a view of the street ahead. After a minute's running, he found himself standing on the seawall. The breakers thundered a stone's throw across the sand. For a moment they became visible under the coy moon, then vanished again in blackness.

He had not seen her.

"Willie!"

Only the breakers' growl responded. And a glimmer of phosphorescence from the waves,

"Willie!" He slipped down from the seawall and began feeling along the jagged rocks that lay beneath it. She could not have gotten down without faffing. Then he remembered a rickety flight of steps just to the north, and he trotted quickly toward it.

The moon came out suddenly. He saw her, and stopped. She was sitting motionless on the bottom step, holding her face in her hands. The crutches were stacked neatly against the handrail. Ten yards across the sand slope lay the hungry, devouring surf. Paul approached her slowly. The moon went out again. His feet sucked at the rain-soaked sand.

He stopped by the handrail, peering at her motionless shadow.

"Willie?"

A low moan, then a long silence. "I did it, Paul," she mut-tered miserably. "It was like a dream at first, but then… you shouted.,. and…"

He crouched in front of her, sitting on his heels. Then he took her wrists firmly and tugged her hands from her face.

"Don't..."

He pulled her close and kissed her. Her mouth was fright ened. Then he lifted her-being cautious of the now-sodden cast. He climbed the steps and started back to the hospital.

Willie, dazed and weary and still uncomprehending, fell asleep in his arms. Her hair blew about his face in the wind. It smelled warm and alive. He wondered what sensation it would produce to the finger-pore receptors. "Wait and see," he said to himself.

The priest met him with a growing grin when he brought her into the candlelit corridor. "Shall we forget the boat, son?"

Paul paused. "No… I'd like to borrow it anyway." Mendelhaus looked puzzled,

Seevers snorted at him: "Preacher, don't you know any reasons for traveling besides running away?"

Paul carried her back to her room. He meant to have a long talk when she awoke. About an island-until the world sobered up.

Part 5. Civilization Destroyed

Even if humanity survives, the civilization it developed over the last ten thousand years may not, in a "Catastrophe of the Fifth Class."

We are, for instance, beginning to suspect that the Sun is not quite as reliable a luminary as we have been taking for granted. Suppose the Sun undergoes a small hiccup, nothing of importance to itself, or very noticeable from out in space- yet enough to introduce sufficient change on Earth to break down humanity's fine-tuned system of society ("Last Night of Summer" by Alfred Coppel).

Or humanity can do it to itself. Wars have been endemic since the beginning of civilization, certainly, and they have been growing steadily more deadly as technology advances. With the coming of the nuclear bomb, the true Armageddon has finally become possible. ("The Store of the Worlds" by Robert Sheckley).

Consider, though, that civilization is the product of humanity's three-pound brain, the most magnificently organized bit of matter we have any knowledge of. What if something goes wrong with it-whether other-induced or self-induced ("How It Was When the Past Went Away" by Robert Silverberg)?

And finally, what of the sword of Damocles that truly hangs suspended over humanity; the one catastrophe that is visible, perhaps even inevitable, and is eating away at us now-overpopulation. What if we continue to increase our numbers and if the mere weight of flesh and blood breaks us down ("Shark Ship" by C. M. Kornbluth)?

Last Night of Summer
by Alfred Coppel

There were fires burning in the city. With the house dark- the power station was deserted by this time-Tom Henderson could see the fires clearly. They reflected like bonfires against the pall of smoke,

He sat in the dark, smoking and listening to the reedy voice of the announcer that came out of the battery-powered portable radio,

"-mean temperatures are rising to abnormal heights all over the world. Paris reports a high yesterday of 110 degrees.,. Naples was 115… astronomers predict… the government requests that the civil population remain calm. Martial law has been declared in Los Angeles-"

The voice was faint. The batteries were low. Not that it mattered. *With all our bickering,* Henderson thought, *this is the finish. And we haven't got what it takes to face it.* It was so simple, really. No war of the worlds, no collision with another planet. A slight rise in temperature. Just that. The astronomers had discovered it first, of course, And,there had been reassuring statements to the press. The rise in temper-ature would be small. Ten percent give or take a few million degrees. They spoke of surface-tensions, internal stresses and used all the astrophysical terms not one man in two million had ever taken the trouble to understand. And what they said to the world was that on the last night of summer it would die.

It would be gradual at first. Temperatures had been high all summer. Then on September 22nd, there would be a sudden surge of heat from that familiar red ball in the sky. The surface temperature of the earth would be raised to 200° centigrade for seventeen hours. Then everything would be back to normal.

Henderson grinned vacuously at the empty air. *Back to normal.* The seas, which would have boiled away, would condense and fall as hot rain for a month or so, flooding the land, washing away all traces of man's occupation-those that hadn't burned. And in two months, the temperature would be down to where a man could walk on the surface without protective clothing.

Only there would not be very many men left. There would only be the lucky ones with the talismans of survivals, the metal disks that gave access to the Burrows. Out of a population of two billions, less than a million would survive.

The announcer sounded bone-weary. *He should,* Henderson thought. *He's been on the air for ten hours or more without relief. We all do what we can. But it isn't much,*

"-no more applicants are being taken for the Burrows-"

I should hope not, Henderson thought. There had been so little time. Three months. That they had been able to build the ten Burrows was tribute enough. But then money hadn't mattered, had it? He had to keep reminding himself that the old values didn't apply. Not money, or materials, or even labor-that stand-by of commerce. Only time. And there hadn't been any of that.

"-population of Las Vegas has been evacuated into several mines in the area-"

Nice try, but it wouldn't work, Henderson thought languidly. If the heat didn't kill, the overcrowding would. And if that failed, then the floods would succeed. And of course there would be earthquakes. *We can't accept catastrophe on this scale,* he told himself. *We aren't equipped mentally for it any better than toe are physically.* The only thing a man could understand were his own problems. And this last night of summer made them seem petty, small, as though they were being viewed through the wrong end of a telescope.

I'm sorry for the girls, he thought. Lorrie and Pam. They should have had a chance to grow up. He felt a tightness in his throat as he thought of his daughters. Eight and ten are sad ages to die.

But he hadn't thought of them before, why should the end of the world make it any different? He had left them and Laura, too. For what? For Kay and money and a kind of life that would go out in a bright flash with the coming of dawn. They all danced their minuscule ballet on the rim of the world while he sat, drained of purpose or feeling, watching them through that reversed telescope.

He wondered where Kay was now. All over the city there were Star Parties going on. The sky the limit tonight! Anything you want. Tomorrow-*bang!* Nothing denied, nothing forbidden. This is the last night of the world, kiddo!

Kay had dressed-if that was the word-and gone out at seven. "I'm not going to sit here and just wait!" He remembered the hysteria in her voice, the drugged stupor in her eyes. And then Trina and those others coming in, some drunk, others merely giddy with terror. Trina wrapped in her mink coat, and dancing around the room singing in a shrill, cracked voice. And the other girl-Henderson never could remember her name, but he'd remember her now for all the time there was left-naked except for her jewels. Diamonds, rubies, emeralds-all glittering sparkling in the last rays of the swollen sun. And the tears streamed down her cheeks as she begged him to make love to her-

It was'a nightmare. But it was real. The red sun that slipped into the Pacific was real. The fires and looting in the city were not dreams. This was the way the world was ending. Star Parties and murder in the streets, and women dressed in gems, and tears-a million gallons of

tears.

Outside there was the squeal of tires and a crash, then the, tinkling of broken glass and silence. A shot came from down the street. There was a cry that was part laughter and part scream,

I'm without purpose, Henderson thought. *Isit and watch and wait for nothing.* And the radio's voice grew fainter still.

"-those in the Burrows will survive… in mines and eaves… geologists promise a forty percent survival… behind the iron curtain-"

Behind the iron curtain, surely nothing. Or perhaps it would be instantaneous, not sweeping across the world with dawn. Of course, it would be instantaneous. The sun would swell-oh, so slightly-and eight minutes later, rivers, lakes, streams, the oceans-everything wet-would boil up into the sky'…

From the street came a rasping repetitive cry. Not a woman. A man. He was burning. A street gang had soaked him with gasoline and touched him with a match. They followed him shrieking: *preview, preview!* Henderson watched him through the window as he ran with that *uuuh uuuh uuuh* noise seemingly ripped from his throat. He vanished around the corner of the next house, closely pursued by his tormentors, *I hope the girls and Laura are safe,* Henderson thought. And then he almost laughed aloud. Safe. What was safety now? *Maybe,* he thought, *Ishould have gone with Kay.* Was there anything left he wanted to do that he had never done? Kill? Rape? Any sensation left untasted? The night before, at the Gilmans', there had been a ludicrous Black Mass full of horror and asininity: pretty Louise Gilman taking the guests one after another amid the broken china and sterling silver on the dining table while her husband lay half-dead of self-administered morphine.

Our set, Henderson thought. *Brokers, bankers, people who matter.* God, it was bad enough to die. But to die without dignity was worse yet. And to die without purpose was abysmal.

Someone was banging at the door, scratching at it, shrieking. He sat still.

"Tom-Tom-it's Kay! Let me in, for God's sake!"

Maybe it was Kay. Maybe it was and he should let her stay outside. *Ishould keep what shreds of dignity I have,* he thought, *and die alone, at least.* How would it have been to face this thing with Laura? Any different? Or was there anything to choose? *Imarried Laura,* he thought. *And I married Kay, too.* It was easy. If a man could get a divorce every two years, say, and he lived to be sixty-five, say-then how many women could he marry? And if you assumed there were a billion women in the world, what percentage would it be?

"Let me in, Tom, damn you! I know you're there!"

Eight and ten isn't very old, he thought. *Not very old, really.* They

might have been wonderful women… to lie amid the crockery and cohabit like animals while the sun got ready to blow up?

"Tom…!"

He shook his head sharply and snapped off the radio. The fires in the city were brighter and bigger. Not sunfires, those. Someone had set them. He got up and went to the door. He opened it. Kay stumbled in, sobbing. "Shut the door, oh, God, shut it!"

He stood looking at her torn clothes-what there was of them-and her hands. They were sticky red with blood. He felt no horror, no curiosity. He experienced nothing but a dead feeling of loss. I never loved her, he thought suddenly.

That's why.

She reeked of liquor and her lipstick was smeared all over her face. "I gave him what he wanted." she said shrilly. "The filthy swine coming to mix with the dead ones and then run, back to the Burrow-" Suddenly she laughed. "Look, Tom- look!" She held out one bloody hand. Two disks gleamed dully in her palm.

"We're safe, safe-" She said it again and again, bending over the disks and crooning to them.

Henderson stood in the dim hallway, slowly letting his mind understand what he was seeing. Kay had killed a man for those tickets into the Burrow.

"Give them to me," he said.

She snatched them away. "No."

"I want them, Kay."

"No, nononono-" She thrust, them into the torn bosom of her dress. "I came back. I came back for you. That's true, isn't it?"

"Yes," Henderson said. And it was also true that she couldn't have hoped to reach a Burrow alone. She would need a car and. a man with a gun. "I understand, Kay," he said softly, hating her.

"If I gave them to you, you'd take Laura," she said. "Wouldn't you? *Wouldn't you?* Oh, I know you, Tom, I know you so well. You'd never gotten free of her or those two sniveling brats of yours-"

He struck her sharply across the face, surprised at the rage that shook him.

"Don't do that again," she said, glaring hatred at him. "I need you right now but you need me more. You don't know where the Burrow is. I do."

It was true, of course. The entrances to the Burrows would have to be secret, known only to those chosen to survive. Mobs would storm them otherwise. And Kay had found out from the man-that man who had paid with his life for forgetting that there were only potential survivors now and animals.

"All right, Kay," Henderson said. "Ill make a bargain with you."

"What?" she asked suspiciously.

"I'll tell you in the car. Get ready. Take light things." He went into the bedroom and took his Luger from the bedside table drawer. Kay was busy stuffing her jewelry into a handbag. "Come on," he said. "That's enough. Plenty. There isn't much time."

They went down into the garage and got into the car, "Roll up the windows," he said. "And lock the doors,"

"All right."

He started the engine and backed onto the street,

"What's the bargain?" Kay asked.

"Later," *he* said.

He put the car in gear and started down out of the residential district, going through the winding, wooded drives. There were dark shapes running in the shadows. A man appeared in the headlights' beam and Henderson swerved swiftly by him. He heard shots behind. "Keep down," he said.

"Where are we going? This isn't the way."

"I'm taking the girls with me," he said. "With us."

"They won't let them in."

"We can try."

"You fool, Tom! They won't let them in, I say!"

He stopped the car and twisted around to look at her. "Would you rather try to make it on foot?"

Her face grew ugly with a renaissance of fear. She could see her escape misting away. "All right. But I tell you they won't let them in. No one gets into a Burrow without a disk."

"We can try." He started the car again, driving fast along the littered streets toward Laura's apartment.

At several points the street was blocked with burning debris, and once a gang of men and women almost surrounded them, throwing rocks and bits of wreckage at the car as he backed it around.

"You'll get us both killed for nothing," Kay said wildly.

Tom Henderson looked at his wife and felt sick for the wasted years. "We'll be all right," he said.

He stopped the car in front of Laura's. There were two overturned cars on the sidewalk. He unlocked the door and got out, taking the keys with him. "I won't be long," he said.

"Say good-by to Laura for me," Kay said, her eyes glittering.

"Yes," he said. "I will."

A shadow moved menacingly out of the dark doorway.

Without hesitation, Tom Henderson lifted the Luger and fired. The man fell and did not move. *I've just killed a man,* Henderson thought. And then: *But what does it matter on the last night of summer?*

He shot away the lock and walked swiftly up the dark hallway, up

the two flights of stairs he remembered so well.

At Laura's door he knocked. There was movement within. The door opened slowly.

"I've come for the girls," he said. Laura stepped back. "Come in," she said.

The scent she wore began to prod memories. His eyes felt unaccountably hot and wet. "There's very little time," he said.

Laura's hand was on his in the dark. "You can get them into a Burrow?" she asked. And then faintly. "I put them to bed. I didn't know what else to do."

He couldn't see her, but he knew how she would look: the close-cropped sandy hair; the eyes the color of rich chocolates; her so familiar body supple and warm under the wrapper; the smell and taste of her. It didn't matter now, nothing mattered on this last crazy night of the world.

"Get them," he said, "Quickly,"

She did as was told. *Pam* and Lorrie-he could hear them complaining softly about being awakened in the middle of the night-soft little bodies, with the musty-childish odor of sleep and safety. Then Laura was kneeling, holding them against her, each in turn. And he knew the tears must be wet on her cheeks. He thought: say *good-by and make it quick. Kiss your children good-by and watch them go out while you remain alone in the dark that isn't ever going to end. Ah, Laura. Laura-*

"Take them quickly, Tom," Laura said. And then she pressed herself against him just for an instant. "I love you, Tom. I never stopped."

He lifted Pam into his arms and took Lome's hand. He didn't trust himself to speak.

"Good-by, Tom," Laura said, and closed the door behind him.

"Isn't Mommy coming?" Pam asked sleepily.

"Another time, baby," Tom said softly.

He took them out to the waiting car and Kay.

"They won't take them," she said. "You'll see."

"Where is it, Kay?"

She remained sullenly silent and Henderson felt his nerves cracking. "Kay-"

"All right." She gave him directions grudgingly, as though she hated to share her survival with him. She wouldn't look at the girls, already asleep in the back of the car.

They drove through the city, the looted, tortured city that burned and echoed to the shrill gaiety of Star Parties and already stank of death.

Twice, they were almost struck by careening cars, filled with

drunken, naked, insane people, all with the desperate desire to make this last night more vivid than all the others' back to the very beginning of time.

The headlights illuminated tableaus from some wild inferno as the car swung around through the concrete cemetery the city had become:

A woman hung by the ankles, her skirt shrouding her face and upper body, her legs and buttocks flayed…

Psalm singers kneeling in the street, not moving as a truck cut a swath through their midst. And the hymn, thin and weak, heard over the moans of the dying: *Rock of Ages, cleft for me, let me hide myself in thee…*

Sudden sun-worshippers and troglodytes dancing round a fire of burning books…

The death throes of a world, Henderson thought. *What survives the fire and flood will have to be better.*

And then they had reached the silent hill that was the entrance to the Burrow, the miles-deep warren clothed in refrigerator pipes and cooling earth. "There," Kay said. "Where you see the light. There'll be a guard."

Behind them, the fires burned in the city. The night was growing lighter, lit by a rising moon, a moon too red, too large. *Four hours left, perhaps,* Tom thought. *Or less.*

"You can't take them," Kay was whispering harshly. "If you try they might not let us in. It's kinder to let them stay here-asleep. They'll never know."

"That's right," Tom said.

Kay got out of the car and started up the grassy slope. "Then come on!"

Halfway up the hill, Henderson could make out the pacing figure of the guard: death watch on a world. "Wait a minute," he said.

"What is it?"

"Are you sure we can get in?"

"Of course."

"No questions asked?"

"A11 we need are the disks. They can't know everybody who belongs."

"No," Tom said quietly. "Of course not." He stood looking at Kay under the light of the red moon,

"Tom-"

He took Kay's hand. "We weren't worth much, were we, Kay?"

Her eyes were bright, wide, staring.

"You didn't really expect anything else, did you?"

"Tom-Tom!"

The pistol felt light in his hand.

"I'm your wife-" she said hoarsely,

"Let's pretend you're not. Let's pretend it's a Star Party."

"My God-please-nonono-"

The Luger bucked in his hand, Kay sank to the grass awkwardly and lay there, eyes glazed and open in horrified surprise. Henderson opened her dress and took the two disks from between her breasts. Then he covered her carefully and shut her eyes with his forefinger. "You didn't miss much, Kay," he said looking down at her. "Just more of the same."

He went back to the car and woke up the girls.

"Where are we going now, Daddy?" Pam asked.

"Up there on the hill, dear. Where the light is."

"Carry me?"

"Both of you," he said, and dropped the Luger into the grass. He-picked them up and carried them up the hill to within a hundred feet of the bunker entrance. Then he put them down and gave them each a disk. "Go to the light and give the man there these," he said, and kissed them both.

"You're not coming?"

"No, babies."

Lorrie looked as though she might start crying.

"I'm afraid."

"There's nothing to be afraid of," Tom said.

"Nothing at all," Pam said.

Tom watched them go. He saw the guard kneel and hug them both. *There is some kindness in this stripping of inhibitions,* Henderson thought, *something is left after all.* They disappeared into the Burrow and the guard stood up saluting the darkness with a wave. Henderson turned and walked back down the hill, skirting the place where Kay lay face to the sky. A Warm dry wind touched his face. *Time running out quickly now,* he thought. He got into the car and started back toward the city. There were still a few hours left of this last night of summer, and Laura and he could watch the red dawn together.

The Store of the Worlds
by Robert Sheckley

Mr. Wayne came to the end of the long, shoulder-high mound of gray rubble, and there was the Store of the Worlds. It was exactly as his friends had described: a small shack constructed of bits of lumber, parts of cars, a piece of galvanized iron and a few rows of crumbling bricks, all daubed over with a watery blue paint.

He glanced back down the long lane of rubble to make sure he hadn't been followed. He tucked his parcel more firmly under his arm; then, with a little shiver at his own audacity, he opened the door and slipped inside.

"Good morning," the proprietor said.

He, too, was exactly as described: a tall, crafty-looking old fellow with narrow eyes and a downcast mouth. His name was Tompkins. He sat in an old rocking chair, and perched on the back of it was a blue-and-green parrot. There was one other chair in the store and a table. On the table was a rusted hypodermic.

"I've heard about your store from friends," Mr. Wayne said.

"Then you know my price," Tompkins said. "Have you brought it?"

"Yes," said Mr. Wayne, holding up his parcel. "All my worldly goods. But I want to ask first-"

"They always want to ask," Tompkins said to the parrot, who blinked. "Go ahead, ask."

"I want to know what really happens."

Tompkins sighed. "What happens is this: I give you an injection which knocks you out. Then, with the aid of certain gadgets which I have in the back of the store, I liberate your mind."

Tompkins smiled as he said that, and his silent parrot seemed to smile, too.

"What happens then?" Mr. Wayne asked.

"Your mind, liberated from its body, is able to choose from the countless probability worlds which the earth easts off in every second of its existence."

Grinning now, Tompkins sat up in his rocking chair and began to show signs of enthusiasm.

"Yes, my friend, though you might not have suspected it, from the moment this battered earth was born out of the sun's fiery womb, it cast off its alternate-probability worlds. Worlds without end, emanating from events large and small; every Alexander and every amoeba creating worlds, just as ripples will spread in a pond no matter how big or how small the stone you throw. Doesn't every

object cast a shadow? Well, my friend, the earth itself is four-dimensional; therefore it casts three-dimensional shadows, solid reflections of itself, through every moment of its being. Millions, billions of earths! An infinity of earths! And your mind, liberated by me, will be able to select any of these worlds and live upon it for a while."

Mr. Wayne was uncomfortably aware that Tompkins sounded like a circus barker, proclaiming marvels that simply couldn't exist. But, Mr. Wayne reminded himself, things had happened within his own lifetime which he would never have believed possible. Never! So perhaps the wonders that Tompkins spoke of were possible, too.

Mr. Wayne said, "My friends also told me-"

"That I was an out-and-out fraud?" Tompkins asked.

"Some of them *implied* that," Mr. Wayne said cautiously, "But I try to keep an open mind. They also said-"

"I know what your dirty-minded friends said. They told you about the fulfillment of desire. Is that what you want to hear about?"

"Yes," said Mr. Wayne. "They told me that whatever I wished for-whatever I wanted-"

"Exactly," Tompkins said. 'The thing could work in no other way. There are the infinite worlds to choose among. Your mind chooses and is guided only by desire. Your deepest desire is the only thing that counts. If you have been harboring a secret dream of murder-" "Oh, hardly, hardly!" cried Mr. Wayne. "-then you will go to a world where you *can* murder, where you can roll in blood, where you can outdo De Sade or

Nero or whoever your idol may be. Suppose it's power you want? Then you'll choose a world where you are a god, literally and actually. A bloodthirsty Juggernaut, perhaps, or an ail-wise Buddha."

"I doubt very much if I-"

"There are other desires, too," Tompkins said. "All heavens and all hells will be open to you. Unbridled sexuality. Gluttony, drunkenness, love, fame-anything you want."

"Amazing!" said Mr. Wayne.

"Yes," Tompkins agreed. "Of course, my little list doesn't exhaust all the possibilities, all the combinations and permutations of desire. For all I know, you might want a simple, placid, pastoral existence on a South Sea island among idealized natives."

"That sounds more like me," Mr. Wayne said with a shy laugh.

"But who knows?" Tompkins asked, "Even you might not know what your true desires are. They might involve your own death."

"Does that happen often?" Mr, Wayne asked anxiously.

"Occasionally."

"I wouldn't want to die," Mr. Wayne said.

"It hardly ever happens," Tompkins said, looking at the parcel in Mr. Wayne's hands.

"If you say so… But how do I know all this is real? Your fee is extremely high; it'll take everything I own. And for all I know, you'll give me a drug and I'll just *dream!* Everything I own just for a-shot of heroin and a lot of fancy words!"

Tompkins smiled reassuringly. "The experience has no druglike quality about it. And no sensation of a dream, either."

"If it's *true,"* Mr. Wayne said a little petulantly, "why can't I stay in the world of my desire for good?"

"I'm working on that," Tompkins said. "That's why I charge so high a fee-to get materials, to experiment. I'm trying to find a way of making the transition permanent. So far I haven't been able to loosen the cord that binds a man to his own earth-and pulls him back to it. Not even the great mystics could cut that cord, except with death. But I still have my hopes."

"It would be a great thing if you succeeded," Mr. Wayne said politely.

"Yes, it would!" Tompkins cried with a surprising burst of passion. "For then I'd turn my wretched shop into an escape hatch! My process would be free then, free for everyone! Everyone could go to the earth of his desires, the earth that really suited him, and leave *this* damned place to the rats and worms-"

Tompkins cut himself off in midsentence and became icy calm. "But I fear my prejudices are showing. I can't offer a permanent escape from this world yet, not one that doesn't involve death. Perhaps I never will be able to. For now, all I can offer you is a vacation, a change, a taste of another world and a look at your own desires. You know my fee. I'll refund it if the experience isn't satisfactory."

"That's good of you," Mr. Wayne said quite earnestly. "But there's that other matter my friends told me about, The ten years off my life."

"That can't be helped," Tompkins said, "and can't be refunded. My process is a tremendous strain on the nervous system, and life expectancy is shortened accordingly. That's one of the reasons why our so-called government has declared my process illegal,"

"But they don't enforce the ban very firmly," Mr. Wayne said.

"No. Officially the process is banned as *a* harmful fraud. But officials are men, too. They'd like to leave this earth, just like everyone else."

"The cost," Mr, Wayne mused, gripping his parcel tightly.

"And ten years off my life! For the fulfillment of my secret desires_ Really, I must give this some thought,"

"Think away," Tompkins said indifferently.

All the way home Mr. Wayne thought about it. When his train

reached Port Washington, Long Island, he was still thinking. And driving his car from the station to his house, he was still thinking about Tompkins's crafty old face, and worlds of probability, and the fulfillment of desire.

But when he stepped inside his home, those thoughts had to stop. Janet, his wife, wanted him to speak sharply to the maid, who had been drinking again. His son, Tommy, wanted help with the sloop, which was to be launched tomorrow. And his baby daughter wanted to tell about her day in kindergarten.

Mr. Wayne spoke pleasantly but firmly to the maid. He helped Tommy put the final coat of copper paint on the sloop's bottom, and he listened to Peggy tell about her adventures in the playground.

Later, when the children were in bed and he and Janet were alone in their living room, she asked him if something was wrong.

"Wrong?"

"You seem to be worried about something," Janet said. "Did you have 'a bad day at the office?"

"Oh, just the usual sort of thing-"

He certainly was not going to tell Janet, or anyone else, that he had taken the day off and gone to see Tompkins in his crazy old Store of the Worlds, Nor was he going to speak about the right every man should have, once in his lifetime, to fulfill his most secret desires. Janet, with her good common sense, would never understand that.

The next days at the office were extremely hectic. All of Wall Street was in a mild panic over events in the Middle East and in Asia, and stocks were reacting accordingly. Mr. Wayne settled down to work. He tried not to think of the fulfillment of desire at the cost of everything he possessed, with ten years of his life thrown in for good measure. It was crazy! Old Tompkins must be insane!

On weekends he went sailing with Tommy. The old sloop was behaving very well, taking practically no water through her bottom seams. Tommy wanted a new suit of racing sails, but Mr. Wayne sternly rejected that. Perhaps next year, if 'the market looked better. For now, the old sails would have to do.

Sometimes at night, after the children were asleep, he and Janet would go sailing. Long Island Sound was quiet then and cool. Their boat glided past the blinking buoys, sailing toward the swollen yellow moon.

"I *know* something's on your mind," Janet said,

"Darling, please!"

"Is there something you're keeping from me?"

"Nothing!"

"Are you sure? Are you absolutely sure?"

"Absolutely sure."

"Then, put your arms around me. That's right…"

And the sloop sailed itself for a while.

Desire and fulfillment… But autumn came and the sloop had to be hauled. The stock market regained some stability, but Peggy caught the measles. Tommy wanted to know the differences between ordinary bombs, atom bombs, hydrogen bombs, cobalt bombs and all the other kinds of bombs that were in the news. Mr. Wayne explained to the best of his ability. And the maid quit unexpectedly.

Secret desires were all very well. Perhaps he *did* want to kill someone or live on a South Sea island. But there were responsibilities to consider. He had two growing children and the best of wives.

'Perhaps around Christmastime…

But in midwinter there was a fire in the unoccupied guest room due to defective wiring. The firemen put out the blaze without much damage, and no one was hurt. But it put any thought of Tompkins out of his mind for a while. First the bedroom had to be repaired, for Mr, Wayne was very proud of his gracious old house.

Business was still frantic uncertain due to the international situation. Those Russians, those Arabs, those Greeks, those Chinese. The intercontinental missiles, the atom bombs, the Sputniks- Mr. Wayne spent *long* days at the office and sometimes evenings, too. Tommy caught the mumps. A part of the roof had to be reshingled. And then already it was time to consider the spring launching of the sloop,

A year had passed, and he'd had very little time to think of secret desires. But perhaps next year. In the meantime-

"Well?" said Tompkins. "Are you all right?"

"Yes, quite all right," Mr. Wayne said. He got up from the chair and rubbed his forehead.

"Do you want a refund?" Tompkins asked.

"No. The experience was quite satisfactory."

"They always are," Tompkins said, winking lewdly at the parrot. "Well, what was yours?"

"A world of the recent past," Mr. Wayne said.

"A lot of them are. Did you find out about your secret desire? Was it murder? Or a South Sea island?"

"I'd rather not discuss it," Mr. Wayne said pleasantly but firmly.

"A lot of people won't discuss it with me," Tompkins said sulkily. "I'll be damned if I know why."

"Because-well, I think the world of one's secret desire seems sacred, somehow. No offense_____ Do you think you'll ever be able to make it permanent? The world of one's choice, I mean?"

The old man shrugged his shoulders, "I'm trying. If I succeed, you'll hear about it. Everyone will."

"Yes, I suppose so." Mr. Wayne undid his parcel and laid its contents on the table. The parcel contained a pair of army boots, a knife, two coils of copper wire and three small cans of corned beef.

Tompkins's eyes glittered for a moment. "Quite satisfac-tory," he said. "Thank you."

"Good-bye," said Mr. Wayne. "And thank *you,"*

Mr. Wayne left the shop and hurried down to the end of the lane of gray rubble. Beyond it, as far as he could see, lay flat fields of rubble, brown and gray and black. Those fields, stretching to every horizon, were made of the twisted corpses of buildings, the shattered remnants of trees and the fine white ash that once was human flesh and bone.

"Well," Mr. Wayne said to himself, "at least we gave as good as we got."

His year in the past had cost him everything he owned and ten years of life thrown in for good measure. Had it been a dream? It was still worth it! But now he had to put away all thought of Janet and the children. That was finished, unless Tompkins perfected his process. Now he had to think about his own survival.

He picked his way carefully through the rubble, determined to get back to the shelter before dark, before the rats came out. If he didn't hurry, he'd miss the evening potato ration.

How It Was When the Past Went Away
by Robert Silverberg

The day that an antisocial fiend dumped an amnesifacient drug into the city water supply was one of the finest that San Francisco had had in a long while. The damp cloud that had been hovering over everything for three weeks finally drifted across the bay into Berkeley that Wednesday, and the sun emerged, bright and warm, to give the old town its warmest day so far in 2003. The temperature climbed into the high twenties, and even those oldsters who hadn't managed to learn to convert to the centigrade thermometer knew it was hot. Air-conditioners hummed from the Golden Gate to the Embarcadero. Pacific Gas amp; Electric recorded its highest one-hour load in history between two and three in the afternoon. The parks were crowded. People drank a lot of water, some a good deal more than others. Toward nightfall, the thirstiest ones were already beginning to forget things. By the next morning, everybody in the city was in trouble, with a few exceptions. It had really been an ideal day for committing a monstrous crime.

On the day before the past went away, Paul Mueller had been thinking seriously about leaving the state and claiming refuge in one of the debtor sanctuaries-Reno, maybe, or Caracas. It wasn't altogether his fault, but he was close to a million in the red and his creditors were getting unruly. It had reached the point where they were sending their robot bill collectors around to harass him in person, just about every three hours.

"Mr. Mueller? I am requested to notify you that the sum of $8,005.97 is overdue in your account with Modern Age Recreators, Inc. We have applied to your financial representative and have discovered your state of insolvency, and therefore, unless a payment of $395.61 is made by the eleventh of this month, we may find it necessary to begin confiscation procedures against your person. Thus I advise you-"

"-the amount of $11,554.97, payable on the ninth of August, 2002, has not yet been received by Luna Tours, Ltd. Under the Credit Laws of 1995 we have applied for injunctive relief against you and anticipate receiving a decree of personal service due, if no payment is received by-"

"-interest on the unpaid balance is accruing, as specified in your contract, at a rate of four percent per month-"

"-balloon payment now coming due, requiring the immediate payment of-"

Mueller was growing accustomed to the routine. The robots couldn't call him-Pacific Tel amp; Tel had cut him out of their data net months ago-and so they came around, polite blank-faced machines stenciled with corporate emblems, and in soft purring voices told him precisely how deep in the mire he was at the moment, how fast the penalty charges were piling up, and what they planned to do to him unless he settled his debts instantly. If he tried to duck them, they'd simply track him down in the streets like indefatigable process servers, and announce his shame to the whole city. So he didn't duck them. But fairly soon their threats would begin to materialize.

They could do awful things to him. The decree of personal service, for example, would turn him into a slave, he'd become an employee of his creditor, at a court-stipulated salary, but every cent he earned would be applied against his debt, while the creditor provided him with minimal food, shelter, and clothing. He might find himself compelled to do menial jobs that a robot would spit at, for two or three years, just to clear that one debt. Personal confiscation procedures were even worse; under that deal he might well end up as the actual servant of one of the executives of a creditor company, shining shoes and folding shirts. They might also get an open-ended garnishment on him, under which he and his descendants, if any, would pay *amp;* stated percentage of their annual income down through the ages until the debt, and the compounding interest thereon, was finally satisfied. There were other techniques for dealing with delinquents, too.

He had no recourse to bankruptcy. The states and the federal government had tossed out the bankruptcy laws in 1995, after the so-called Credit Epidemic of the 1980's, when for a while it was actually fashionable to go irretrievably into debt and throw yourself on the mercy of the courts. The haven of easy bankruptcy was no more; if you became insolvent, your creditors had you in their grip. The only way was to jump to a debtor sanctuary, a place where local laws barred any extradition for a credit offense. There were about a dozen such sanctuaries, and you could live well there, provided you had some special skill that you could sell at a high price. You needed to make a good living, because in a debtor sanctuary everything was on a strictly cash basis-cash in advance, at that, even for a haircut. Mueller had a skill that he thought would see him through: he was an artist, a maker of sonic sculptures, and his work was always in good demand. All he needed was a few thousand dollars to purchase the basic tools of his trade-his last set of sculpting equipment had been repossessed a few weeks ago-and he could set up a studio in one of the sanctuaries, beyond the reach of the robot hounds. He imagined he could still find a friend who would lend him a few thousand dollars. In

the name of art, so to speak. In a good cause.

If he stayed within the sanctuary area for ten consecutive years, he would be absolved of his debts and could come forth a free man. There was only one catch, not a small one. Once a man had taken the sanctuary route, he was forever barred from all credit channels when he returned to the outside world. He couldn't even get a post office credit card, let alone a bank loan. Mueller wasn't sure he could live that way, paying cash for everything all the rest of his life. It would be terribly cumbersome and dreary. Worse: it would be barbaric.

He made a note on his memo pad: *Call Freddy Munson in morning and borrow three bigs. Buy ticket to Caracas, Buy sculpting stuff.*

The die was cast-unless he changed his mind in the morning.

He peered moodily out at the row of glistening whitewashed just-post-Earthquake houses descending the steeply inclined street that ran down Telegraph Hill toward Fisherman's Wharf. They sparkled in the unfamiliar sunlight. A beautiful day, Mueller thought. A beautiful day to drown yourself in the bay. Damn. Damn, Damn. He was going to be forty years old soon, He had come into the world on the same black day that President John Kennedy had left it. Born in an evil hour, doomed to a dark fate. Mueller scowled. He went to the tap and got a glass of water. It was the only thing he could afford to drink, just now. He asked himself how he had ever managed to get into such a mess. Nearly a million in debt!

He lay down dismally to take a nap.

When he woke, toward midnight, he felt better than he had felt for a long time. Some great cloud seemed to have lifted from him, even as it had lifted from the city that day. Mueller was actually in a cheerful mood. He couldn't imagine why.

In an elegant townhouse on Marina Boulevard, The Amazing Montini was rehearsing his act. The Amazing Mon-tini was a professional mnemonist: a small, dapper man of sixty, who never forgot a thing. Deeply tanned, his dark hair slicked back at a sharp angle, his small black eyes glistening with confidence, his thin lips fastidiously pursed. He drew a book from a shelf and let it drop open at random. It was an old one-volume edition of Shakespeare, a familiar prop in his nightclub act. He skimmed the page, nodded, looked briefly at another, then another, and smiled his inward smile. Life was kind to The Amazing Montini. He earned a comfortable $30,000 a week on tour, having converted a freakish gift into a profitable enterprise. Tomorrow night he'd open for a week at Vegas; then on to Manila, Tokyo, Bangkok, Cairo, on around the globe. In twelve weeks he'd earn his year's take; then he'd relax once more.

It was all so easy. He knew so many good tricks. Let them scream out a twenty digit number; he'd scream it right back. Let them

bombard him with long strings of nonsense syllables; he'd repeat the gibberish flawlessly. Let them draw intricate mathematical formulas on the computer screen; he'd reproduce them down to the last exponent. His memory was perfect, both for visuals and auditories, and for the other registers as well.

The Shakespeare thing, which was one of the simplest routines he had, always awed the impressionable. It seemed so fantastic to most people that a man could memorize the complete works, page by page. He liked to use it as an opener.

He handed the book to Nadia, his assistant. Also his mistress; Montini liked to keep his circle of intimates close. She was twenty years old, taller than he was, with wide frost-gleamed eyes and a torrent of glowing, artificially radiant azure hair: up to the minute in every fashion. She wore a glass bodice, a nice container for the things contained. She was not very bright, but she did the things Montini expected her to do, and did them quite well. She would be replaced, he estimated, in about eighteen more months. He grew bored quickly with his women. His memory was too good.

"Let's start," he said.

She opened the book. "Page 537, left-hand column."

Instantly the page floated before Montini's eyes. "Henry VI, Part Two," he said. "King Henry: Say, man, were these thy words? Horner: An't shall please your majesty, I never said nor thought any such matter: God is my witness, I am falsely accused by the villain. Peter: By these ten bones, my lords, he did speak them to me in the garret one night, as we were scouring my Lord of York's armour. York: Base dunghill villain, and-"

"Page 778, right-hand column," Nadia said.

"Romeo and Juliet. Mercutio is speaking:… an eye would spy out such a quarrel? Thy head is as full of quarrels as an egg is full of meat, and yet thy head hath been beaten as addle as an egg for quarreling. Thou hast quarreled with a man for coughing in the street, because he hath wakened thy dog that hath lain asleep in the sun. Didst thou not-"

"Page 307, starting fourteen lines down on the right side."

Montini smiled. He liked the passage. A screen would show it to his audience at the performance.

"Twelfth Night," he said. "The Duke speaks: Too old, by heaven. Let still the woman take an elder than herself, so wears she to him, so sways she level in her husband's heart: For, boy, however we do praise ourselves, our fancies are more giddy and unfirm-"

"Page 495, left-hand column."

"Wait a minute," Montini said. He poured himself a tall glass of water and drank it in three quick gulps. "This work always makes me

thirsty."

Taylor Braskett, Lt. Comdr., Ret., U.S Space Service, strode with springy stride into his Oak Street home, just outside Golden Gate Park. At 71, Commander Braskett still managed to move in a jaunty way, and he was ready to step back into uniform at once if this country needed him. He believed his country did need him, more than ever, now that socialism was running like wildfire through half the nations of Europe. Guard the home front, at least. Protect what's left of traditional American liberty. What we ought to have, Commander Braskett believed, is a network of C-bombs in orbit, ready to rain hellish death on the enemies of democracy. No matter what that treaty says, we must be prepared to defend ourselves.

Commander Braskett's theories were not widely accepted. People respected him for having been one of the first Americans to land on Mars, of course, but he knew that they quietly regarded him as a crank, a crackpot, an antiquated Minute Man still fretting about the Redcoats. He had enough of a sense of humor to realize that he did cut an absurd figure to these young people. But he was sincere in his determination to help keep America free-to protect the youngsters from the lash of totalitarianism, whether they laughed at him or not. All this glorious sunny day he had been walking through the park, trying to talk to the young ones, attempting to explain his position. He was courteous, attentive, eager to find someone who would ask him questions. The trouble was that no one listened. And the young ones-stripped to the waist in the sunshine, girls as well as boys, taking drugs out in the open, using the foulest obscenities in casual speech-at times, Commander Braskett almost came to think that the battle for America had already been lost. Yet he never gave up all hope.

He had been in the park for hours. Now, at home, he walked past the trophy room, into the kitchen, opened the refrigerator, drew out a bottle of water. Commander Braskett had three bottles of mountain spring water delivered to his home every two days; it was a habit he had begun fifty years ago, when they had first started talking about putting fluorides in the water. He was not unaware of the little smiles they gave him when he admitted that he drank only bottled spring water, but he didn't mind; he had outlived many of the smilers already, and attributed his perfect health to his refusal to touch the polluted, contaminated water that most other people drank. First chlorine, then fluorides-probably they were putting in some other things by now, Commander Braskett thought.

He drank deeply.

You have no way of telling what sort of dangerous chemicals they might be putting in the municipal water system these days, he told himself. Am I a crank? Then I'm a crank. But a sane man drinks only

water he can trust.

Fetally curled, knees pressed almost to chin, trembling, sweating, Nate Haldersen closed his eyes and tried to ease himself of the pain of existence. Another day. A sweet, sunny day. Happy people playing in the park. Fathers and children. Husbands and wives. He bit his lip, hard, just short of laceration intensity. He was an expert at punishing himself.

Sensors mounted in his bed in the Psychotrauma Ward of Fletcher Memorial Hospital scanned him continuously, sending a constant flow of reports to Dr. Bryce and his team of shrinks. Nate Haldersen knew he was a man without secrets. His hormone count, enzyme ratios, respiration, circulation, even the taste of bile in his mouth-it all became instantaneously known to hospital personnel. When the sensors discovered him slipping below the depression line, ultrasonic snouts came nosing up from the recesses of the mattress, proximity nozzles that sought him out in the bed, found the proper veins, squirted him full of dynajuice to cheer him up.

Modern science was wonderful. It could do everything for Haldersen except give him back his family.

The door slid open. Dr. Bryce came in. The head shrink looked his part: tall, solemn yet charming, gray at the temples, clearly a wielder of power and an initiate of mysteries. He sat down beside Haldersen's bed. As usual, he made a big point of not looking at the row of computer outputs next to the bed that gave the latest details on Haldersen's condition.

"Nate?" he said. "How goes?"

"It goes," Haldersen muttered.

"Feel like talking awhile?"

"Not specially. Get me a drink of water?"

"Sure," the shrink said. He fetched it and said, "It's a gorgeous day. How about a walk in the park?"

"I haven't left this room in two and a half years, Doctor. You know that."

"Always a time to break loose. There's nothing physically wrong with you, you know."

"I just don't feel like seeing people," Haldersen said. He handed back the empty glass. "More?"

"Want something stronger to drink?"

"Water's fine." Haldersen closed his eyes. Unwanted images danced behind the lids: the rocket liner blowing open over the pole, the passengers spilling out like autumn seeds erupting from a pod, Emily tumbling down, down, falling eighty thousand feet, her golden hair swept up by the thin cold wind, her short skirt flapping at her hips, her long lovely legs clawing at the sky for a place to stand. And

the children falling beside her, angels dropping from heaven, down, down, down, toward the white soothing fleece of the polar ice. They sleep in peace, Haldersen thought, and I missed the plane, and I alone remain. And Job spake, and said, Let the day perish wherein I was born, and the night in which it was said, There is a man child conceived.

"It was eleven years ago," Dr. Bryce told him. "Won't you let go of it?"

"Stupid talk coming from a shrink. Why won't it let go of *me?"*

"You don't want it to. You're too fond of playing your role."

"Today is talking-tough day, eh? Get me some more water."

"Get up and get it yourself," said the shrink.

Haldersen smiled bitterly. He left the bed, crossing the room a little unsteadily, and filled his glass. He had had all sorts of therapy-sympathy therapy, antagonism therapy, drugs, shock, orthodox freuding, the works. They did nothing for him. He was left with the image of an opening pod, and falling figures against the iron-blue sky. The Lord gave, and the Lord hath taken away; blessed be the name of the Lord. My soul is weary of my life. He put the glass to his lips. Eleven years. I missed the plane. I sinned with Marie, and Emily died, and John, and Beth. What did it feel like to fall so far? Was it like flying? Was there ecstasy in it? Haldersen filled the glass again.

"Thirsty today, eh?"

"Yes," Haldersen said.

"Sure you don't want to take a little walk?"

"You know I don't." Haldersen shivered. He turned and caught the psychiatrist by the forearm. "When does it end, Tim? How long do I have to carry this thing around?"

"Until you're willing to put it down."

"How can I make a conscious effort to forget something? Tim, Tim, isn't there some drug I can take, something to wash away a memory that's killing me?"

"Nothing effective."

"You're lying," Haldersen murmured. "I've read about the amnesifacients. The enzymes that eat memory-RNA. The experiments with di-isopropyl fluorophosphate. Puromycin. The-"

Dr. Bryce said, "We have no control over their operations. -We can't simply go after a single block of traumatic memories while leaving the rest of your mind unharmed. We'd have to bash about at random, hoping we got the trouble spot, but never knowing what else we were blotting out. You'd wake up without your trauma, but maybe without remembering anything else that happened to you between, say, the ages of 14 and 40. Maybe in fifty years we'll know enough to be able to direct the dosage at a specific-"

"I can't wait fifty years."

"I'm sorry, Nate."

"Give me the drug anyway. I'll take my chances on what I lose."

"We'll talk about that some other time, all right? The drugs are experimental. There'd be months of red tape before I could get authorization to try them on a human subject. You have to realize-"

Haldersen turned him off. He saw only with his inner eye, saw the tumbling bodies, reliving his bereavement for the billionth time, slipping easily back into his self-assumed role of Job. I am a brother to dragons, and a companion to owls. He hath destroyed me on every side, and I am gone: and mine hope hath he removed like a tree.

The shrink continued to speak. Haldersen continued not to listen. He poured himself one more glass of water with a shaky hand.

It was close to midnight on Wednesday before Pierre Gerard, his wife, their two sons, and their daughter had a chance to have dinner. They were the proprietors, chefs, and total staff of the Petit Pois Restaurant on Sansome Street, and business had been extraordinarily, exhaustingly good all evening. Usually they were able to eat about half past five, before the dinner rush began, but today people had begun coining in early-made more expansive by the good weather, no doubt-and there hadn't been a free moment for anybody since the cocktail hour. The Gerards were accustomed to brisk trade, for theirs was perhaps the most popular family-run bistro in the city, with a passionately devoted clientele. Still, a night like this was too much!

They dined modestly on the evening's miscalculations: an overdone rack of lamb, some faintly corky Chateau Bey-chevelle '97, a fallen souffle, and such. They were thrifty people. Their one extravagance was the Evian water that they imported from France. Pierre Gerard had not set foot in his native Lyons for thirty years, but he preserved many of the customs of the motherland, including the traditional attitude toward water. A Frenchman does not drink much water; but what he does drink comes always from the bottle, never from the tap. To do otherwise is to risk a diseased liver. One must guard one's liver.

That night Freddy Munson picked up Helene at her flat on Geary and drove across the bridge to Sausalito for dinner, as usual, at Ondine's. Ondine's was one of only four restaurants, all of them famous old ones, at which Munson ate in fixed rotation. He was a man of firm habits. He awakened religiously at six each morning, and was at his desk in the brokerage house by seven, plugging himself into the data channels to learn what had happened in the European finance markets while he slept. At half past seven local time the New York exchanges opened and the real day's work began. By half past eleven, New York was through for the day, and Munson went around the

corner for lunch, always at the Petit Pois, whose proprietor he had helped to make a millionaire by putting him into Consolidated Nucleonics' several components two and a half years before the big merger. At half past one, Munson was back in the office to transact business for his own account on the Pacific Coast exchange; three days a week he left at three, but on Tuesdays and Thursdays he stayed as late as five in order to catch some deals on the Honolulu and Tokyo exchanges. Afterwards, dinner, a play or concert, always a handsome female companion. He tried to get to sleep, or at least to bed, by midnight.

A man in Freddy Munson's position *had* to be orderly. At any given time, his thefts from his clients ranged from six to nine million dollars, and he kept all the details of his jugglings in his head. He couldn't trust putting them on paper, because there were scanner eyes everywhere; and he certainly didn't dare employ the data net, since it was well known that anything you confided to one computer was bound to be accessible to some other computer somewhere, no matter how tight a privacy seal you slapped on it. So Munson had to remember the intricacies of fifty or more illicit transactions, a constantly changing chain of embezzlements, and a man who practices such necessary disciplines of memory soon gets into the habit of extending discipline to every phase of his life.

Helene snuggled close. Her faintly psychedelic perfume drifted toward his nostrils. He locked the car into the Sau-salito circuit and leaned back comfortably as the traffic-control computer took over the steering. Helene said, "At the Bryce place last night I saw two sculptures by your bankrupt friend."

"Paul Mueller?"

"That's the one. They were very good sculptures. One of them buzzed at me."

"What were you doing at the Bryces?"

"I went to college with Lisa Bryce. She invited me over with Marty."

"I didn't realize you were that old," Munson said.

Helene giggled. "Lisa's a lot younger than her husband, dear. How much does a Paul Mueller sculpture cost?"

"Fifteen, twenty thousand, generally. More for specials."

"And he's broke, even so?"

"Paul has a rare talent for self-destruction," Munson said. "He simply doesn't comprehend money. But it's his artistic salvation, in a way. The more desperately in debt he is, the finer his work becomes. He creates out of his despair, so to speak. Though he seems to have overdone the latest crisis. He's stopped working altogether. It's a sin against humanity when an artist doesn't work."

"You can be so eloquent, Freddy," Helena said softly.

When The Amazing Montini woke Thursday morning, he did not at once realize that anything had changed. His memory, like a good servant, was always there when he needed to call on it, but the array of perfectly fixed farts he carried in his mind remained submerged until required, A librarian might scan shelves and see books- missing; Montini could not detect similar vacancies of his synapses. He had been up for half an hour, had stepped under the molecular bath and had punched for his breakfast and had awakened Nadia to tell her to confirm the pod reservations to Vegas, and finally, like a concert pianist running off a few arpeggios to limber his fingers for the day's chores, Montini reached into his memory bank for a little Shakespeare and no Shakespeare came.

He stood quite still, gripping the astrolabe that ornamented his picture window, and peered out at the bridge in sudden bewilderment. It had never been necessary for him to make a conscious effort to recover data. He merely looked and it was there; but where was Shakespeare? Where was the left-hand column of page 136, and the right-hand column of page 654, and the right-hand column of page 806, sixteen lines down? Gone? He drew blanks. The screen of his mind showed him only empty pages.

Easy. This is unusual, but it isn't catastrophic. You must be tense, for some reason, and you're forcing it, that's all. Relax, pull something else out of storage-

The New York Times, Wednesday, October 3, 1973. Yes, there it was, the front page, beautifully clear, the story on the baseball game down in the lower right-hand corner, the headline about the jet accident big and black, even the photo credit visible. Fine. Now let's try-

The St. Louis *Post-Dispatch,* Sunday, April 19,1987. Montini shivered. He saw the top four inches of the page, nothing else. Wiped clean.

He ran through the files of other newspapers he had memorized for his act. Some were there. Some were not. Some, like the *Post-Dispatch,* were obliterated in part. Color rose to his cheeks. Who had tampered with his memory?

He tried Shakespeare again. Nothing.

He tried the 1997 Chicago data-net directory. It was there.

He tried his third-grade geography textbook. It was there, the big red book with smeary print.

He tried last Friday's five-o'clock xerofax bulletin. Gone.

He stumbled and sank down on a divan he had purchased in Istanbul, he recalled, on the nineteenth of May, 1985, for 4,200 Turkish pounds. "Nadia!" he cried. "Nadia!" His voice was little more

than a croak. She came running, her eyes only half frosted, her morning face askew.

"How do I look?" he demanded. "My mouth-is my mouth right? My eyes?"

"Your face is all flushed."

"Aside from that!"

"I don't know," she gasped. "You seem all upset, but-"

"Half my mind is gone," Montini said. "I must have had a stroke. Is there any facial paralysis? That's a symptom. Call my doctor, Nadia! A stroke, a stroke! It's the end for Montini!"

Paul Mueller, awakening at midnight on Wednesday and feeling strangely refreshed, attempted to get his bearings. Why was he fully dressed, and why had he been asleep? A nap, perhaps, that had stretched on too long? He tried to remember what he had been doing earlier in the day, but he was unable to find a clue. He was baffled but not disturbed; mainly he felt a tremendous urge to get to work. The images of five sculptures, fully planned and begging to be constructed, jostled in his mind. Might as well start right now, he thought. Work through till morning. That small twittering silvery one-that's a good one to start with. I'll block out the schematics, maybe even do some of the armature-

"Carole?" he called. "Carole, art you around?"

His voice echoed through the oddly empty apartment.

For the first time Mueller noticed how little furniture there was. A bed-a cot, really, not their double bed-and a table, and a tiny insulator unit for food, and a few diehes. No carpeting. Where were his sculptures, his private collection of his own best work? He walked into his studio and found it bare from wall to wall, all of his tools mysteriously swept away, just a few discarded sketches on the floor. And his wife? "Carole? *Carole?"*

He could not understand any of this. While he dozed, it seemed, someone had cleaned the place out, stolen his furniture, his sculptures, even the carpet Mueller had heard of such thefts. They came with a van, brazenly, posing as moving men. Perhaps they had given him some sort of drug while they worked. He could not bear the thought that they had taken his sculptures; the rest didn't matter, but he had cherished those dozen pieces dearly. I'd better call the police, he decided, and rushed toward the handset of the data unit, but it wasn't there either. Would burglars take *that* too?

Searching for some answers, he scurried from wall to wall, and saw a note in his own handwriting. *Call Freddy Munson in morning and borrow three bigs. Buy ticket to Caracas. Buy sculpting stuff.*

Caracas? A vacation, maybe? And why buy sculpting stuff? Obviously the tools had been gone before he fell asleep, then. Why?

And where was his wife? What was going on? He wondered if he ought to call Freddy right now, instead of waiting until morning. Freddy might know. Freddy was always home by midnight, too. He'd have one of his damned girls with him and wouldn't want to be interrupted, but to hell with that; what good was having friends if you couldn't bother them in a time of crisis?

Heading for the nearest public communicator booth, he rushed out of his apartment and nearly collided with a sleek dunning robot in the hallway. The things show no mercy, Mueller thought. They plague you at all hours. No doubt this one was on its way to bother the deadbeat Nicholson family down the hall.

The robot said, "Mr. Paul Mueller? I am a properly qualified respresentative of International Fabrication Cartel, Amalgamated. I am here to serve notice that there is an unpaid balance in your account to the extent of $9,150.55, which as of 0900 hours tomorrow morning will accrue compounded penalty interest at the rate of 5 percent per month, since you have not responded to our three previous requests for payment. I must further inform you- "

"You're off your neutrinos," Mueller snapped. "I don't owe a dime to I.F.C.! For once in my life I'm in the black, and don't try to make me believe otherwise."

The robot replied patiently, "Shall I give you a printout of the transactions? On the fifth of January, 2003, you ordered the following metal products' from us: three 4-meter tubes of antiqued iridium, six 10-centimeter spheres of-"

"The fifth of January, 2003, happens to be three months from now," Mueller said, "and I don't have time to listen to crazy robots. I've got an Important call to make. Can I trust you to patch me into the data net without garbling things?"

"I am not authorized to permit you to make use of my facilities."

"Emergency override," said Mueller. "Human being in trouble. Go argue with that one!"

The robot's conditioning was sound. It yielded at once to his assertion of an emergency and set up a relay to the main communications net. Mueller supplied Freddy Munson's number. "I can provide audio only," the robot said, putting the call through. Nearly a minute passed. Then Freddy Munson's familiar deep voice snarled from the speaker grille in the robot's chest, "Who is it and what do you want?"

"It's Paul. I'm sorry to bust in on you, Freddy, but I'm in big trouble. I think I'm losing my mind, or else everybody else is."

"Maybe everybody else *is.* What's the problem?"

"All my furniture's gone. A dunning robot is trying to shake me down for nine bigs, I don't know where Carole is. I can't remember

what I was doing earlier today. I've got a note here about getting tickets to Caracas that I wrote myself, and I don't know why. And-"

"Skip the rest," Munson said. "I can't do anything for you. I've got problems of my own."

"Can I come over, at least, and talk?"

"Absolutely not!" In a softer voice Munson said, "Listen, Paul, I didn't mean to yell, but something's come up here, something very distressing-"

"You don't need to pretend. You've got Helene with you and you wish I'd leave you alone. Okay."

"No. Honestly," Munson said. "I've got problems, suddenly. I'm in a totally ungood position to give you any help at all. I need help myself."

"What sort? Anything I can do for you?"

"I'm afraid not. And if you'll excuse me, Paul-"

"Just tell me one thing, at least. Where am I likely to find Carole. Do you have any idea?"

"At her husband's place, I'd say."

"I'm her husband."

There was a long pause. Munson said finally, "Paul, she divorced you last January and married Pete Castine in April."

"No," Mueller said.

"What, no?"

"No, it isn't possible."

"Have you been popping pills, Paul? Sniffing something? Smoking weed? Look, I'm sorry, but I can't take time now to-"

"At least tell me what day today is."

"Wednesday,"

"Which Wednesday?"

"Wednesday the eighth of May. Thursday the ninth, actually, by this time of night."

"And the year?"

"For Christ's sake, Paul-"

"The y*ear?"*

"2003."

Mueller sagged. "Freddy, I've lost half a year somewhere! For me it's last October 2002, I've got some weird kind of amnesia. It's the only explanation,"

"Amnesia," Munson said. The edge of tension left his voice. "Is that what you've got? Amnesia? Can there be such a thing as an epidemic of amnesia? Is it contagious? Maybe you better come over here after all. Because amnesia's my problem too."

Thursday, May 9, promised to be as beautiful as the previous day had been. The sun once again beamed on San Francisco; the sky was

clear, the air warm and tender, Commander Braskett awoke early as always, punched for his usual spartan breakfast, studied the morning xerofax news, spent an hour dictating his memoirs, and, about nine, went out for a walk. The streets were strangely crowded, he found, when he got down to the shopping district along Haight Street, People were wandering about aimlessly, dazedly, as though they were sleepwalkers. Were they drunk? Drugged? Three times in five minutes Commander Braskett was stopped by young men who wanted to know the date. Not the time, the *date.* He told them, crisply, disdainfully; he tried to be tolerant, but it was difficult for him not to despise people who were so weak that they were unable to refrain from poisoning their minds with stimulants and narcotics and psychedelics and similar trash. At the corner of Haight and Masonic a forlorn-looking pretty girl of about seventeen, with wide blank blue eyes, halted him and said, "Sir, this city is San Francisco, isn't it? I mean, I was supposed to move here from Pittsburgh in May, and if this is May, this is San Francisco, right?" Commander. Braskett nodded brusquely and turned away, pained. He was relieved to see an old friend, Lou Sandler, the manager of the Bank of America office across the way, Sandler was standing outside the bank door. Commander Bras-kett crossed to him and said, "Isn't it a disgrace, Lou, the way this whole street *is* filled with addicts this morning? What is it, some historical pageant of the 1960's?" And Sandler gave him an empty smile and said, "Is that my name? Lou? You wouldn't happen to know the last name *too,* would you? Somehow it's slipped my mind." In that moment Commander Braskett realized that something terrible had happened to his city and perhaps to his country, and that the leftist takeover he had long dreaded must now be at hand, and that it was time for him to don his old uniform again and do what he could to strike back at the enemy.

In joy and in confusion, Nate Haldersen awoke that morning realizing that he had been transformed in some strange and wonderful way. His head was throbbing, but not painfully. It seemed to him that a terrible weight had been lifted from his shoulders, that the fierce dead hand about his throat had at last relinquished its grip.

He sprang from bed, full of questions.

Where am I? What kind of place is this? Why am I not at home? Where are my books? Why do I feel so happy?

This seemed to be a hospital room.

There was a veil across his mind. He pierced its filmy folds and realized that he had committed himself to-to Fletcher Memorial-last-August-no, the August before last-suffering with a severe emotional disturbance brought on by- brought on by-

He had never felt happier than at this moment.

He saw a mirror. In it was the reflected upper half of Nathaniel Haldersen, Ph.D. Nate Haldersen smiled at himself. Tall, stringy, long-nosed man, absurdly straw-colored hair, absurd blue eyes, thin lips, smiling. Bony body. He undid his pajama top. Pale, hairless chest; bump of hone like an epaulet on each shoulder. I have been sick a long time, Haldersen thought. Now I must get out of here, back to my classroom. End of leave of absence. Where are my clothes?

"Nurse? Doctor?" He pressed his call button three times. "Hello? Anyone here?"

No one came. Odd; they always came. Shrugging, Haldersen moved out into the hall. He saw three orderlies, heads together, buzzing at the far end. They ignored him. A robot servitor carrying breakfast trays glided past, A moment later one of the younger doctors came running through the hall, and would not stop when Haldersen called to him. Annoyed, he went back into his room and looked about for clothing. He found none, only a little stack of magazines on the closet floor. He thumbed the call button three more times. Finally one of the robots entered the room.

"I am sorry," it said, "but the human hospital personnel is busy at present. May I serve you, Dr. Haldersen?"

"I want a suit of clothing. I'm leaving the hospital."

"I am sorry, but there is no record of your discharge. Without authorization from Dr. Bryce, Dr. Reynolds, or Dr. Ka-makura, I am not permitted to allow your departure."

Haldersen sighed. He knew better than to argue with a robot. "Where are those three gentlemen right now?"

"They are occupied, sir. As you may know, there is a medical emergency in the city this morning, and Dr. Bryce and Dr. Kamakura are helping to organize the committee of public safety. Dr. Reynolds did not report for duty today and we are unable to trace him. It is believed that he is a victim of the current difficulty."

"What current difficulty?"

"Mass loss of memory on the part of the human population," the robot said.

"An epidemic of amnesia?"

"That is one interpretation of the problem."

"How can such a thing-" Haldersen stopped. He understood now the source of his own joy this morning. Only yesterday afternoon he had discussed with Tim Bryce the application of memory-destroying drugs to his own trauma, and Bryce had said-

Haldersen no longer knew the nature of his own trauma,

"Wait," he said, as the robot began to leave the room. "I need information. Why have I been under treatment here?"

"You have been suffering from social displacements and

dysfunctions whose origin, Dr. Bryce feels, lies in a situation of traumatic personal loss."

"Loss of what?"

"Your family, Dr. Haldersen."

"Yes. That's right. I recall, now-I had a wife and two children. Emily. And a fittle girt-Margaret, Elizabeth, something like that. And a boy named John. What happened to them?"

"They were passengers aboard Intercontinental Airways

Flight 103, Copenhagen to San Francisco, September 5,1991. The plane underwent explosive decompression over the Arctic Ocean and there were no survivors,"

Haldersen absorbed the information as calmly as though he were hearing of the assassination of Julius Caesar.

"Where was I when the accident occurred?"

"In Copenhagen," the robot replied. "You had intended to return to San Francisco with your family on Flight 103; however, according to your data file here, you became involved in an emotional relationship with a woman named Marie Rasmussen, whom you had met in Copenhagen, And failed to return to your hotel in time to go to the airport. Your wife, evidently aware of the situation, chose not to wait for you. Her subsequent death, and that of your children, produced a traumatic guilt reaction in which you came to regard yourself as responsible for their terminations."

"I *would* take that attitude, wouldn't I?" Haldersen said. "Sin and retribution. Mea culpa, mea maxima culpa. I always had a harsh view of sin, even while I was sinning. I should have been an Old Testament prophet."

"Shall I provide more information, sir?"

"Is there more?"

"We have in the files Dr. Bryce's report headed, *The Job Complex: A Study in the Paralysis of Guilt."*

"Spare me that," Haldersen said. "All right, go."

He was alone. The Job Complex, he thought. Not really appropriate, was it? Job was a man without sin, and yet he was punished grievously to satisfy a whim «f the Almighty. A little presumptuous, I'd say, to identify myself with him. Cain would have been a better choice. Cain said unto the Lord, My punishment is greater than I can bear. But Cain was a sinner. I was a sinner. I sinned and Emily died for it. When, eleven, eleven and a half years ago? And now I know nothing at all about it except what the machine just told me. Redemption through oblivion, I'd call it. I have expiated my sin and now I'm free. I have no business staying in this hospital any longer. Strait is the gate, and narrow is the way, which leadeth unto life, and few there be that find it. I've got to get out of here. Maybe I

can be of some help to others.

He belted his bathrobe, took a drink of water, and went out of the room. No one stopped him. The elevator did not seem to be running, but he found the stairs, and walked down, a little creakily. He had not been this far from his room in more than a year. The lower floors of the hospital were in chaos-doctors, orderlies, robots, patients, all milling around excitedly. The robots were trying to *calm* people and get them back to their proper places. "Excuse me," Haldersen said serenely. "Excuse me. Excuse me." He left the hospital, unmolested, by the front door. The air outside was as fresh as young wine; he felt like weeping when it hit his nostrils. He was free. Redemption through oblivion. The disaster high abpve the Arctic no longer dominated his thoughts. He looked upon it precisely as if it had happened to the family of some other man, long ago. Haldersen began to walk briskly down Van Ness, feeling vigor returning to his legs with every stride. A young woman, sobbing wildly, erupted from a building and collided with him. He caught her, steadied her, Was surprised at his own strength as he kept her from toppling. She trembled and pressed her head against his chest, "Can I do anything for you?" he asked. "Can I be of any help?"

Panic had begun to enfold Freddy Munson during dinner at Ondine's Wednesday night. He had begun to be annoyed with Helene in the midst of the truffled chicken breasts, and so he had started to think about the details of business; and to his amazement he did not seem to have the details quite right in his mind; and so he felt the early twinges of terror.

The trouble was that Helene was going on and on about the art of sonic sculpture in general and Paul Mueller in particular. Her interest was enough to arouse faint jealousies in Munson. Was she getting ready to leap from his bed to Paul's? Was she thinking of abandoning the wealthy, glamorous, but essentially prosaic stockbroker for the irresponsible, impecunious, fascinatingly gifted sculptor? Of course, Helene kept company with a number of other men, but Munson knew them and discounted them as rivals; they were nonentities, escorts to fill her idle nights when he was-too busy for her. Paul Mueller, however, was another Munson could not bear the thought that Helene might leave him for Paul. So he shifted his concentration to the day's maneuvers. He had extracted a thousand shares of the $5.87 convertible preferred of Lunar Transit from the Schaeffer account, pledging it as collateral to cover his shortage in the matter of the Comsat debentures, and then, tapping the Howard account for five thousand Southeast Energy Corporation warrants, he had-or had those warrants come out of the Brewster account? Brewster was big on utilities. So was Howard, but that account was heavy on Mid-Atlantic

Power, so would it also be loaded with Southeast Energy? In any case, had he put those warrants up against the Zurich uranium futures, or were they riding as his markers in the Antarctic oil-lease thing? He could not remember.

He could not remember.

He could not remember.

Each transaction had been in its own compartment. The partitions were down, suddenly. Numbers were spilling about in his mind as though his brain were in free fall. All of today's deals were tumbling. It frightened him. He began to gobble his food, wanting now to get out of here, to get rid of Helene, to get home and try to reconstruct his activities of the afternoon. Oddly, he could remember quite clearly all that he had done yesterday-the Xerox switch, the straddle on Steel-but today was washing away minute by minute.

"Are you all right?" Helene asked.

"No, I'm not," he said. "I'm coming down with something."

"The Venus Virus. Everybody's getting it."

"Yes, that must be it. The Venus Virus. You'd better keep clear of me tonight."

They skipped dessert and cleared out fast. He dropped Helene off at her flat; she hardly seemed disappointed, which bothered him, but not nearly so much as what was happening to his mind. Alone, finally, he tried to jot down an outline of his day, but even more had left him now. In the restaurant he had known which stocks he had handled, though he wasn't sure what he had done with them. Now he couldn't even recall the specific securities. He was out on the limb for millions of dollars of other people's money, and every detail was in his mind, and his mind was falling apart. By the time Paul Mueller called, a little after midnight, Munson was growing desperate. He was relieved, but not exactly cheered, to learn that whatever strange thing had affected his mind had hit Mueller a lot harder. Mueller had forgotten everything since last October.

"You went bankrupt," Munson had to explain to him, "You had this wild scheme for setting up a central clearing house for works of art, a kind of stock exchange-the sort of thing only an artist would try to start. You wouldn't let me discourage you. Then you began signing notes, and taking on contingent liabilities, and before the project was six weeks old you were hit with half a dozen lawsuits and it all began to go sour."

"When did this happen, precisely?"

"You conceived the idea at the beginning of November, By Christmas you were in severe trouble. You already had a bunch of personal debts that had gone unpaid from before, and your assets melted away, and you hit a terrible bind in your work and couldn't

produce a thing. You really don't remember a thing of this, Paul?"

"Nothing."

"After the first of the year the fastest-moving creditors started getting decrees against you. They impounded everything you owned except the furniture, and then they took the furniture. You borrowed from all of your friends, but they couldn't give you nearly enough, because you were borrowing thousands and you owed hundreds of thousands."

"How much did I hit you for?"

"Eleven bigs," Munson said. "But don't worry about that now."

"I'm not. I'm not worrying about a thing. I was in! a bind in my work, you say?" Mueller chuckled. "That's all gone, I'm itching to start making things. All I need are the tools- I mean, money to buy the tools."

"What would they cost?"

"Two and a half bigs," Mueller said.

Munson coughed. "All right. I can't transfer the money to your account, because your creditors would lien it right away. I'll get some cash at the bank. You'll have three bigs tomorrow, and welcome to it."

"Bless you, Freddy." Mueller said, "This kind of amnesia is a good thing, eh? I was so worried about money that I couldn't work. Now I'm not worried at all. I guess I'm still in debt, but I'm not fretting. Tell me what happened to my marriage, now."

"Carole got fed up and turned off," said Munson. "She opposed your business venture from the start. When it began to devour you, she did what she could to untangle you from it, but you insisted on trying to patch things together with more loans, and she filed for a decree. When she was free, Pete Castine moved in and grabbed her."

"That's the hardest part to believe. That she'd marry an art dealer, a totally noncreative person, a-a parasite, really-"

"They were always good friends," Munson said. "I won't say they were lovers, because I don't know, but they were close. And Pete's not that horrible. He's got taste, intelligence, everything an artist needs except the gift. I think

Carole may have been weary of gifted men, anyway."

"How did I take it?" Mueller asked,

"You hardly seemed to notice, Paul. You were so busy with your financial shenanigans."

Mueller nodded. He sauntered to one of his own works, a three-meter-high arrangement of oscillating rods that ran the whole sound spectrum into the high kilohertzes, and passed two fingers over the activator eye. The sculpture began to murmur.

After a few moments Mueller said, "You sounded awfully upset when I called, Freddy. You say you have some kind of amnesia too?"

Trying to be casual about it, Munson said, "I find I can't remember some important transactions I carried out today. Unfortunately, my only record of them is in my head. But maybe the information will come back to me when I've slept on it."

"There's no way I can help you with that."

"No. There isn't."

"Freddy, where is this amnesia coming from?"

Munson shrugged. "Maybe somebody put a drug in the water supply, or spiked the food, or something. These days, you never can tell. Look, I've got to do some work, Paul. If you'd like to sleep here tonight-"

"I'm wide awake, thanks. I'll drop by again in the morning."

When the sculptor was gone, Munson struggled for a feverish hour to reconstruct his data, and failed. Shortly before two he took a four-hour-sleep pill. When he awakened, he realized in dismay that he had no memories whatever for the period from April 1 to noon yesterday. During those five weeks he had engaged in countless securities transactions, using other people's property as his collateral, and counting on his ability to get each marker in his game back into its proper place before anyone was likely to go looking for it. He had always been able to remember everything. Now he could remember nothing. He reached his office at seven in the morning, as always, and out of habit plugged himself into the data channels to study the Zurich and London quotes, but the prices on the screen were strange to him, and he knew that he was undone.

At the same moment of Thursday morning Dr. Timothy Bryce's house computer triggered an impulse and the alarm voice in his pillow said quietly but firmly, "It's time to wake up, Dr, Bryce." He stirred but lay still. After the prescribed ten-second interval the voice said, a little more sharply, "It's time to wake up, Dr. Bryce." Bryce sat up, just in time; the lifting of his head from the pillow cut off the third, much sterner, repetition, which would have been followed by the opening chords of the *Jupiter* Symphony. The psychiatrist opened his eyes.

He was surprised to find himself sharing his bed with a strikingly attractive girl.

She was a honey blonde, deeply tanned, with light-brown eyes, full pale lips, and a sleek, elegant body. She looked to be fairly young, a good twenty years younger than he was- perhaps twenty-five, twenty-eight. She wore nothing, and she was in a deep sleep, her lower lip sagging in a sort of involuntary pout. Neither her youth nor her beauty nor her nudity surprised him; he was puzzled simply because he had no notion who she was or how she had come to be in bed with him. He felt as though he had never seen her before. Certainly he didn't know her name. Had he picked her up at some

party last night? He couldn't seem to remember where he had been last night. Gently he nudged her elbow.

She woke quickly, fluttering her eyelids, shaking her head.

"Oh," she said, as she saw him, and clutched the sheet up to her throat. Then, smiling, she dropped it again. "That's foolish. No need to be modest *now,* I guess."

"I guess. Hello."

"Hello," she said. She looked as confused as he was.

"This is going to sound stupid," he said, "but have slipped me *amp;* weird weed last night, because I'm afraid I'm not sure how I happed to bring you home. Or what your name is."

"Lisa," she said. "Lisa-Falk." She stumbled over the second name. "And you're-"

'Tim Bryce."

"You don't remember where we met?"

"No," he said.

"Neither do I."

He got out of bed, feeling a little hesitant about his own nakedness, and fighting the inhibition off. "They must have given us both the same thing to smoke, then. You know"- he grinned shyly-"I can't even remember if we had a good time together last night. I hope we did."

"I think we did," she said, "I can't remember it either. But I feel good inside-the way I usually do after I've-" She paused. "We couldn't have met only just last night, Tim."

"How can you tell?"

"I've got the feeling that I've known you longer than that."

Bryce shrugged. "I don't see how. I mean, without being too coarse about it, obviously we were both high last night, really floating, and we met and came here and-"

"No. I feel at home here. As if I moved in with you weeks and weeks ago."

"A lovely idea. But I'm sure you didn't."

"Why do I feel so much at home here, then?"

"In what way?"

"In every way." She walked to the bedroom closet and let her hand rest on the touchplate. The door slid open; evidently he had keyed the house computer to her fingerprints. Had he done that last night too? She reached in. "My clothing," she said. "Look. All these dresses, coats, shoes. A whole wardrobe. There can't be any doubt. We've been living together and don't remember it!"

A chill swept through him. "What have they done to us? Listen, Lisa, let's get dressed and eat and go down to the hospital together for a checkup. We-"

"Hospital?"

"Fletcher Memorial. I'm in the neurological department. Whatever they slipped us last night has hit us both with a lacunary retrograde amnesia-a gap in our memories-and it could be serious. If it's caused brain damage, perhaps it's not'irreversible yet, but we can't fool around."

She put her hand to her lips in fear. Bryce felt a sudden warm urge to protect this lovely stranger, to guard and comfort her, and he realized he must be in love with her, even though he couldn't remember who she was. He crossed the room to her and seized her in a brief, tight embrace; she responded eagerly, shivering a little. By a quarter to eight they were out of the house and heading for the hospital through unusually light traffic. Bryce led the girl quickly to the staff lounge. Ted Kamakura was there already, in uniform. The little Japanese psychiatrist nodded curtly and said, "Morning, Tim." Then he blinked. "Good morning, Lisa. How come *you're* here?"

"You know her?" Bryce asked,

"What kind of question is that?"

"A deadly serious one."

"Of course I know her," Kamakura said, and Ms smile of greeting abruptly faded. "Why? Is something wrong about that?"

"You may know her, but I don't," said Bryce.

"Oh, God. Not you too!"

"Tell me who she is, Ted."

"She's your wife, Tim. You married her five years ago."

By half past eleven Thursday morning the Gerards had everything set up and going smoothly for the lunch rush at the Petit Pois. The soup caldron was bubbling, the escargot trays were ready to be popped in the oven, the sauces were taking form. Pierre Gerard was a bit surprised when most of the lunch-time regulars failed to show up. Even Mr. Mun-son, always punctual at half past eleven, did not arrive. Some of these men had not missed weekday lunch at the Petit Pois in fifteen years. Something terrible must have happened on the stock market, Pierre thought, to have kept all these financial men at their desks, and they were too busy to call him and cancel their usual tables. That must be the answer. It was impossible that any of the regulars would forget to call him. The stock market must be exploding. Pierre made a mental note to call his broker after lunch and find out what was going on.

About two Thursday afternoon, Paul Mueller stopped into Metchinkoff's Art Supplies in North Beach to try to get a welding pen, some raw metal, loudspeaker paint, and the rest of the things he needed for the rebirth of his sculpting career. Metchnikoff greeted him sourly with, "No credit at all, Mr. Mueller, not even a nickel!"

"It's all right. I'm a cash customer this time."

The dealer brightened. "In that case it's all right, maybe. You finished with your troubles?"

"I hope so," Mueller said.

He gave the order. It came to about $2,300; when the time came to pay, he explained that he simply had to run down to Montgomery Street to pick up the cash from his friend Freddy Munson, who was holding three bigs for him. Metchnikoff began to glower again. "Five minutes!" Mueller called. "I'll be back in five minutes!" But when he got to Munson's office, he found the place in confusion, and Munson wasn't there. "Did he leave an envelope for a Mr. Mueller?" he asked a distraught secretary. "I was supposed to pick something important up here this afternoon. Would you please check?" The girl simply ran away from him. So did the next girl. A burly broker told him to get out of the office. "We're closed, fellow," he shouted. Baffled, Mueller left.

Not daring to return to Metchnikoff 's with the news that, he hadn't been able to raise the cash after all, Mueller simply went home. Three dunning robots were camped outside his door, and each one began to croak its cry of doom as he approached. "Sorry," Mueller said, "I can't remember a thing about any of this stuff," and he went inside and sat down on the bare floor, angry, thinking of the brilliant pieces he could be turning out if he could only get his hands on the tools of his trade. He made sketches instead. At least the ghouls had left him with pencil and paper. Not as efficient as a computer screen and a light-pen, maybe, but Michelangelo and Ben-venuto Cellini had managed to make out all right without computer screens and light-pens.

At four o'clock the doorbell rang.

"Go *away,"* Mueller said through the speaker. "See my accountant! I don't want to hear any more dunnings, and the next time I catch one of you idiot robots by my door I'm going to-"

"It's me, Paul," a nonmeehanical voice said.

Carole.

He rushed to the door. There were seven robots out there, surrounding her, and they tried to get in; but he pushed them back so she could enter. A robot didn't dare lay a paw on a human being. He slammed the door in their metal faces and locked it.

Carole looked fine. Her hair was longer than he remembered it, and she had gained about eight pounds in all the right places, and she wore an iridescent peekaboo wrap that he had never seen before, and which was really inappropriate for afternoon wear, but which looked splendid on her. She seemed at least five years younger than she really was; evidently a month and a half of marriage to Pete Castine had

done more for her than nine years of marriage to Paul Mueller. She glowed. She also looked strained and tense, but that seemed superficial, the product of some distress of the last few hours.

"I seem to have lost my key," she said.

"What are you doing here?"

"I don't understand you, Paul."

"I mean, why'd you come here?"

"I *live* here."

"Do you?" He laughed harshly. "Very funny,"

"You always did have *a* weird sense of humor, Paul." She stepped past him. "Only this isn't any joke. Where is everything? The furniture, Paul. My things." Suddenly she was crying. "I must be breaking up. I wake up this morning in a completely strange apartment, all alone, and 1 spend the whole day wandering ia a sort of daze that I don't understand at all, and now I finally come home and I find that you've pawned every damn thing we own, or something, and-" She bit her knuckles. "Paul?"

She's got it too, he thought. The amnesia epidemic.

He said quietly, "This is a funny thing to ask, Carole, but will you tell me what today's date is?"

"Why-the fourteenth of September-or is it the fifteenth-"

"2002?"

"What do you think? 1776?"

She's got it worse than I have, Mueller told himself. She's lost a whole extra month. She doesn't remember my business venture. She doesn't remember my losing all the money. *She doesn't remember divorcing me.* She thinks she's still my wife.

"Come in here," he said, and led her to the bedroom. He pointed to the cot that stood where their bed had been. "Sit down, Carole. I'll try to explain. It won't make much sense, but I'll try to explain."

Under the circumstances, the concert by the visiting New York Philharmonic for Thursday evening was canceled. Nevertheless the orchestra assembled for its rehearsal at half past two in the afternoon. The union required so many rehearsals-with pay-a week; therefore the orchestra rehearsed, regardless of external cataclysms. But there were problems. Maestro Alvarez, who used an electronic baton and proudly conducted without a score, thumbed the button for a downbeat and realized abruptly, with a sensation as of dropping through a trapdoor, that the Brahms Fourth was wholly gone from his mind. The orchestra responded raggedly to his faltering leadership; some of the musicians had no difficulties, but the concertmaster stared in horror at his left hand, wondering how to finger the strings for the notes his violin was supposed to be yielding, and the second oboe could not find the proper keys, and the first bassoon had not yet even managed to

remember how to put his instrument together.

By nightfall, Tim Bryce had managed to assemble enough of the story so that he understood what had happened, not only to himself and to Lisa, but to the entire city. A drug, or drugs, almost certainly distributed through the municipal water supply, had leached away nearly everyone's memory. The trouble with modern life, Bryce thought, is that technology gives us the potential for newer and more intricate disasters every year, but doesn't seem to give us the ability to ward them off. Memory drugs were old stuff, going back thirty, forty years. He had studied several types of them himself. Memory is partly a chemical and partly an electrical process; some drugs went after the electrical end, jamming the snyapses over which brain transmissions travel, and some went after the molecular substrata in which long-term memories are locked up. Bryce knew ways of destroying short-term memories by inhibiting synapse transmission, and he knew ways of destroying the deep long-term memories by washing out the complex chains of ribonucleic acid, brain-RNA, by which they are inscribed in the brain. But such drugs were experimental, tricky, unpredictable; he had hesitated to use them on human subjects; he certainly had never imagined that anyone would simply dump them into an aqueduct and give an entire city a simultaneous lobotomy.

His office at Fletcher Memorial had become an improvised center of operations for San Francisco. The mayor was there, pale and shrunken; the chief of police, exhausted and confused, periodically turned his back and popped a pill; a dazed-looking representative of the communications net hovered in a corner, nervously monitoring the hastily rigged system through which the committee of public safety that Bryce had summoned could make its orders known throughout the city.

The mayor was no use at all. He couldn't even remember having run for office. The chief of police was in even worse shape; he had been up all night because he had forgotten, among other things, his home address, and he had been afraid to query a computer about it for fear he'd lose his job for drunkenness. By now the chief of police was aware that he wasn't the only one in the city having memory problems today, and he had looked up his address in the files and even telephoned his wife, but he was close to collapse. Bryce had insisted that both men stay here as symbols of order; he wanted only their faces and their voices, not their fumble-headed official services.

A dozen or so miscellaneous citizens had accumulated in Bryce's office too. At five in the afternoon he had broadcast an all-media appeal, asking anyone whose memory of recent events was unimpaired to come to Fletcher Memorial. "If you haven't had any city water in the past twenty-four hours, you're probably all right. Come

down here. We need you." He had drawn a curious assortment. There was a ramrod-straight old space hero, Taylor Braskett, a pure-foods nut who drank only mountain water. There was a family of French restaurateurs, mother, father, three grown children, who preferred mineral water flown in from their native land. There was a computer salesman named McBurney who had been in Los Angeles on business and hadn't had any of the drugged water. There was a retired cop named Adler who hved in Oakland, where there were no memory problems; he had hurried across the bay as soon as he heard that San Francisco was in trouble. That was before all access to the city had been shut off at Bryce's orders. And there were some others, of doubtful value but of definitely intact memory.

The three screens that the communications man had mounted provided a relay of key points in the city. Right now one was monitoring the Fisherman's Wharf district from a camera atop Ghirardelli Square, one was viewing the financial district from a helicopter over the old Ferry Building Museum, and one was relaying a pickup from a mobile truck in Golden Gate Park. The scenes were similar everywhere: people milling about, asking questions, getting no answers. There wasn't any overt sign of looting yet. There were no fires. The police, those of them able to function, were out in force, and antiriot robots were cruising the bigger streets, just in case they might be needed to squirt their stifling blankets of foam at suddenly panicked mobs.

Bryce said to the mayor, "At half past six I want you to go on all media with an appeal for calm. We'll supply you with everything you have to say."

The mayor moaned.

Bryce said, "Don't worry. I'll feed you the whole speech by bone relay. Just concentrate on speaking clearly and looking straight into the camera. If you come across as a terrified man, it can be the end for all of us. If you look cool, we may be able to pull through."

The mayor put his face in his hands.

Ted Kamakura whispered, "You can't put him on the channels, Tim! He's a wreck, and everyone will see it!"

"The city's mayor has to show himself," Bryce insisted. "Give him a double jolt of bracers. Let him make this one speech and then we can put him to pasture."

"Who'll be the spokesman, then?" Kamakura asked. "You? Me? Police Chief Dennison?"

"1 don't know," Bryce muttered. "We need an authority-image to make announcements every half hour or so, and I'm damned if I'll have time. Or you. And Dennison-"

"Gentlemen, may I make a suggestion?" It was the old spaceman,

Braskett. "I wish to volunteer as spokesman. You must admit I have *a* certain look of authority. And I'm accustomed to speaking to the public."

Bryce rejected the idea instantly. That right-wing crackpot, that author of passionate nut letters to every news medium in the state, that latter-day Paul Revere? Him, spokesman for the committee? But in the moment of rejection came acceptance. Nobody really paid attention to far-out political activities like that; probably nine people out of ten in San Francisco thought of Braskett, if at all, simply as the hero of the First Mars Expedition. He was *s* handsome old horse, too, elegantly upright and lean. Deep voice; unwavering eyes. A man of strength and presence.

Bryce said, "Commander Braskett, if we were to make you chairman of the committee of public safety-"

Ted Kamakura gasped.

"-would I have your assurance thst such public announcements as you would make would be confined entirely to statements of the policies arrived at by the entire committee?"

Commander Braskett smiled glacially. "You want me to be a figurehead, is that it?"

"To be our spokesman, with the official title of chairman."

"As I said: to be a figurehead. Very well, I accept. I'll mouth my lines like an obedient puppet, and I won't attempt to inject any of my radical, extremist ideas into my statements. Is that what you wish?"

"I think we understand each other perfectly," Bryce said, and smiled, and got a surprisingly warm smile in return.

He jabbed now at his data board. Someone in the path lab eight stories below his office answered, and Bryce said, "Is there an up-to-date analysis yet?"

"I'll switch you to Dr. Madison."

Madison appeared on the screen. He ran the hospital's radioisotope department, normally: a beefy, red-faced man who looked as though he ought to be a beer salesman. He knew his subject. "It's definitely the water supply, Tim," he said at once. "We tentatively established that an hour and a half ago, of course, but now there's no doubt. I've isolated traces of two different memory-suppressant drugs, and there's the possibility of a third. Whoever it was was taking no chances."

"What are they?" Bryce asked.

"Well, we've got a good jolt of acetylcholine terminase," Madison said, "which will louse up the synapses and interfere with short-term memory fixation. Then there's something else, perhaps a puromycin-derivative protein dissolver, which is going to work on the brain-RNA and smashing up older memories. I suspect also that we've been

getting one of the newer experimental amnesifacients, something that I haven't isolated yet, capable of working its way deep and cutting out really basic motor patterns. So they've hit us high, low, and middle."

'That explains a lot. The guys who can't remember what they did yesterday, the guys who've lost a chunk out of then-adult memories, and the ones who don't even remember their names-this thing is working on people at all different levels."

"Depending on individual metabolism, age, brain structure, and how much water they had to drink yesterday, yes."

"Is the water supply still tainted?" Bryce asked.

"Tentatively, I'd say no. I've had water samples brought me from the upflow districts, and everything's okay there. The water department has been running its own check; they say the same. Evidently the stuff got into the system early yesterday, came down into the city, and is generally gone by now. Might be some residuals in the pipes; I'd be careful about drinking water even today."

"And what does the pharmacopoeia say about the effectiveness of these drugs?"

Madison shrugged. "Anybody's guess. You'd know that better than I, Do they wear off?"

"Not in the normal sense," said Bryce. "What happens is the brain cuts in a redundancy circuit and gets access to a duplicate set of the affected memories, eventually-shifts to another track, so to speak-provided a duplicate of the sector in question was there in the first place, and provided that the duplicate wasn't blotted out also. Some people are going to get chunks of their memories back, in a few days or a few weeks. Others won't."

"Wonderful," Madison said. "I'll keep you posted, Tim."

Bryce cut off the call and said to the communications man, "You have that bone relay? Get it behind His Honor's ear,"

The mayor quivered. The little instrument was fastened in place.

Bryce said, "Mr. Mayor, I'm going to dictate a speech, and you're going to broadcast it on all media, and it's the last thing I'm going to ask of you until you've had a chance to pull yourself together. Okay? Listen carefully to what I'm saying, speak slowly, and pretend that tomorrow is election day and your job depends on how well you come across now. You won't be going on live. There'll be a fifteen-second delay, and we have a wipe circuit so we can correct any stumbles, and there's absolutely no reason to be tense. Are you with me? Will you give it all you've got?"

"My mind is all foggy."

"Simply listen to me and repeat what I say into the camera's eye. Let your political reflexes take over. Here's your chance to make a hero of yourself. We're living history right now, Mr. Mayor. What we

do here today will be studied the way the events of the 1906 fire were studied. Let's go, now. Follow me. *People of the wonderful city of San Francisco-*"

The words rolled easily from Bryce's lips, and, wonder of wonders, the mayor caught them and spoke them in a clear, beautifully resonant voice. As he spun out his speech, Bryce felt a surging flow of power going through himself, and he imagined for the moment that he were the elected leader of the city, not merely a self-appointed emergency dictator. It was an interesting, almost ecstatic feeling. Lisa, watching him in action, gave him a loving smile.

He smiled at her. In this moment of glory he was almost able to ignore the ache of knowing that he had lost his entire memory archive of his life with her. Nothing else gone, apparently. But, neatly, with idiot selectivity, the drug in the water supply had sliced away everything pertaining to his five years of marriage. Kamakura had told him, a few hours ago, that it was the happiest marriage of any he knew. Gone. At least Lisa had suffered an identical loss, against all probabilities. Somehow that made it easier to bear; it would have been awful to have one of them remember the good times and the other know nothing. He was almost able to ignore the torment of loss, while he kept busy. Almost,

"The mayor's going to be on in a minute," Nadia said. "Will you listen to him? He'll explain what's been going on."

"I don't care," said The Amazing Montini dully.

"It's some kind of epidemic of amnesia. When I was out before, I heard all about it. *Everyone's* got it. It isn't just you! And you thought it was a stroke, but it wasn't. You're all right"

"My mind is a ruin."

"It's only temporary." Her voice was shrill and unconvincing. "It's something in the air, maybe. Some drug they were testing that drifted in." We're all in this together. I can't remember last week at all."

"What do I care?" Montini said. "Most of these people, they have no memories even when they are healthy. But me? Me? I am destroyed. Nadia, I should lie down in my grave now. There is no sense in continuing to walk around."

The voice from the loudspeaker said, "Ladies and gentlemen, His Honor Elliot Chase, the Mayor of San Francisco."

"Let's listen," Nadia said.

The mayor appeared on the wallscreen, wearing his solemn face, his we-face-a-grave-challenge-citizens face. Montini glanced at him, shrugged, looked away.

The mayor said, "People of the wonderful city of San Francisco, we have just come through the most difficult day in nearly a century, since the terrible catastrophe of April, *1906,* The earth has not quaked

today, nor have we been smitten' by fire, yet we have been severely tested by sudden calamity.

"As all of you surely know, the people of San Francisco have been afflicted since last night by what can best be termed an epidemic of amnesia. There has been mass loss of memory, ranging from mild cases of forgetfulness to near-total obliteration of identity. Scientists working at Fletcher Memorial Hospital have succeeded in determining the cause of this unique and sudden disaster.

"It appears that criminal saboteurs contaminated the municipal water supply with certain restricted drugs that have the ability to dissolve memory structures. *The effect of these drugs is temporary.* There should be no cause for alarm. Even those who are most severely affected will find their memories gradually beginning to return, and there is every reason to expect full recovery in a matter of hours or days."

"He's lying," said Montini,

"The criminals responsible have not yet been apprehended, but we expect arrests momentarily. The San Francisco area is the only affected region, which means the drugs were introduced into the water system just beyond city limits. Everything is normal in Berkeley, in Oakland, in Marin County, and other outlying areas. -

"In the name of public safety I have ordered the bridges to San Francisco closed, as well as the Bay Area Rapid Transit and other means of access to the city. We expect to maintain these restrictions at least until tomorrow morning. The purpose of this is to prevent disorder and to avoid a possible influx of undesirable elements into the city while the trouble persists. We San Franciscans are self-sufficient and can look after our own needs without outside interference. However, I have been in contact with the President and with the Governor, and they both have assured me of all possible assistance.

"The water supply is at present free of the drug, and every precaution is being taken to prevent a recurrence of this crime against one million innocent people. However, I am told that some lingering contamination may remain in the pipes for a few hours. I recommend that you keep your consumption of water low until further notice, and that you boil any water you wish to use.

"Lastly. Police Chief Dennison, myself, and your other city officials will be devoting full time to the needs of the city so long as the crisis lasts. Probably we will not have the opportunity to go before the media for further reports. Therefore, I have taken the step of appointing a committee of public safety, consisting of distinguished laymen and scientists of San Francisco, as a coordinating body that will aid in governing the city and reporting to its citizens. The

chairman of this committee is the well-known veteran of so many exploits in space, Commander Taylor Braskett. Announcements concerning the developments in the crisis will come from Commander Braskett for the remainder of the evening, and you may consider his words to be those of your city officials. Thank you."

Braskett came on the screen. Montini grunted. "Look at the man they find. A maniac patriot!"

"But the drug will wear off," Nadia said. "Your mind will be all right again."

"I know these drugs. There is no hope. I am destroyed."

The Amazing Montini moved toward the door, "I need fresh air. I will go out. Good-bye, Nadia."

She tried to stop him. He pushed her aside. Entering Marina Park, he made his way to the yacht dub; the doorman admitted him, and took no further notice. Montini walked out on the pier. The drug, they say, is temporary. It will wear off. My mind will clear. I doubt this very much. Montini peered at the dark, oily water, glistening with light reflected from the bridge. He explored his damaged mind, scanning for gaps. Whole sections of memory were gone. The walls had crumbled, slabs of plaster falling away to expose bare lath. He could not live this way. Carefully, grunting from the exertion, he lowered himself via a metal ladder into the water, and kicked himself away from the pier. The water was terribly cold. His shoes seemed immensely heavy. He floated toward the island of the old prison, but he doubted that he would remain afloat much longer. As he drifted, he ran through an inventory of his memory, seeing what remained to him and finding less than enough. To test whether even his gift had survived, he attempted to play back a recall of the mayor's speech, and found the words shifting and melting. It is just as well, then, he told himself, and drifted on, and went under.

Carole insisted on spending Thursday night with him.

"We aren't man and wife any more," he had to tell her, "You divorced me."

"Since when are you so conventional? We lived together before we were married, and now we can live together after we were married. Maybe we're inventing a new sin, Paul. Post-marital sex."

"That isn't the point. The point is that you came to hate me because of my financial mess, and you left me. If you try to come back to me now, you'll be going against your own rational and deliberate decision of last January."

"For me last January is still four months away," she said. "I don't hate you. I love you. I always have and always will. I can't imagine how I would ever have come to divorce you, but in any case I don't remember divorcing you, and you don't remember being divorced by

me, and so why can't we just keep going from the point where our memories leave off?"

"Among other things, because you happen to be Pete Cas-tine's wife now,"

"That sounds completely unreal to me. Something you dreamed."

"Freddy Munson told me, though. It's true."

"If I went back to Pete now," Carole said, "I'd feel sinful. Simply because I supposedly married him, you want me to jump into bed with him? I don't want him I want you. Can't I stay here?"

"If Pete-"

"If Pete, if Pete, if Pete! In my mind I'm Mrs. Paul Mueller, and in your mind I am too, and to hell with Pete, and with whatever Freddy Munson told you, and everything else. This is a silly argument, Paul. Let's quit it. If you want me to get out, tell me so right now in that many words. Otherwise let me stay."

He couldn't tell her to get out.

He had only the one small cot, but they managed to share it. It was uncomfortable, but in an amusing way. He felt twenty years old again for a while. In the morning they took a long shower together, and then Carole went out to buy some things for breakfast, since his service had been cut off and he couldn't punch for food. A dunning robot outside the door told him, as Carole was leaving, "The decree of personal service due has been requested, Mr. Mueller, and is now pending a court hearing."

"I know you not," Mueller said. "Be gone!"

Today, he told himself, he would hunt up Freddy Munson somehow and get that cash from him, and buy the tools he needed, and start working again. Let the world outside go crazy; so long as he was working, all was well. If he couldn't find Freddy, maybe he could swing the purchase on Carole's credit. She was legally divorced from him and none of his credit taint would stain her; as Mrs. Peter Castine she should surely be able to get hold of a couple of bigs to pay Metchnikoff. Possibly the banks were closed on account of the memory crisis today, Mueller considered; but Metchnikoff surely.wouldn't demand cash from Carole. He closed his eyes and imagined how good it would feel to be making things once more.

Carole was gone an hour. When she came back, carrying groceries, Pete Castine was with her.

"He followed me," Carole explained. "He wouldn't let me alone."

He was a slim, poised, controlled man, quite athletic, several years older than Mueller-perhaps into his fifties already-but seemingly very young. Calmly he said, "I was sure that Carole had come here. It's perfectly understandable, Paul. She was here all night, I hope?"

"Does it matter?" Mueller asked.

"To some extent. I'd rather have had her spending the night with her former husband than with some third party entirely."

"She was here all night, yes," Mueller said wearily.

"I'd like her to come home with me now. She *is* my wife, after all,"

"She has no recollection of that. Neither do I."

"I'm aware of that." Castine nodded amiably. "In my own case, I've forgotten everything that happened to me before the age of twenty-two. I couldn't tell you my father's first name. However, as a matter of objective reality, Carole's my wife, and her parting from you was rather bitter, and I feel she shouldn't stay here any longer."

"Why are you telling all this to me?" Mueller asked. "If you want your wife to go home with you, ask her to go home with you."

"So I did. She says she won't leave here unless you direct her to go."

"That's right," Carole said, "I know whose wife I *think* I am. If Paul throws me out, I'll go with you. Not otherwise,"

Mueller shrugged. "I'd be a fool to throw her out, Pete. I need her and I want her, and whatever breakup she and I had isn't real to us. I know it's tough on you, but I can't help that. I imagine you'll have no trouble getting an annulment once the courts work out some law to cover cases like this."

Castine was silent for a long moment,

At length he said, "How has your work been going, Paul?"

"I gather that I haven't turned out a thing all year."

"That's correct."

"I'm planning to start again. You might say that Carole has inspired me."

"Splendid," said Castine without intonation of any kind. "I trust this little mixup over our-ah-shared wife won't interfere with the harmonious artist-dealer relationship we used to enjoy?"

"Not at all," Mueller said. "You'll still get my whole output. Why the hell should I resent anything you did? Carole was a free agent when you married her. There's only one little trouble."

"Yes?"

"I'm broke. I have no tools, and I can't work without tools, and I have no way of buying tools."

"How much do you need?"

"Two and a half bigs."

Castine said, "Where's your data pickup? I'll make a credit transfer."

"The phone company disconnected it a long time ago."

"Let me give you a check, then. Say, three thousand even? An advance against future sales." Castine fumbled for a while before locating a blank check. "First one of these I've written in five years,

maybe. Odd how you get accustomed to spending by telephone. Here you are, and good luck. To both of you." He made a courtly, bitter bow. "I hope you'll be happy together. And call me up when you've finished a few pieces, Paul. I'll send the van. I suppose you'll have a phone again by then." He went out.

"There's a blessing in being able to forget," Nate Hald-ersen said. "The redemption of oblivion, I call it. What's happened to San Francisco this week isn't necessarily a disaster. For some of us, it's the finest thing in the world."

They were listening to him-at least fifty people, clustering near his feet. He stood on the stage of the bandstand in the park, just across from the *De* Young Museum. Shadows were gathering. Friday, the second full day of the memory crisis, was ending. Haldersen had slept in the park last night, and he planned to sleep there again tonight; he had realized after his escape from the hospital that his apartment had been shut down long ago and his possessions were in storage. It did not matter. He would live off the land and forage for food. The flame of prophecy was aglow in him.

"Let me tell you how it was with me," he cried. "Three days ago I was in a hospital for mental illness. Some of you are smiling, perhaps, telling me I ought to be back there now, but no! You don't understand. I was incapable of facing the world. Wherever I went, I saw happy families, parents and children, and it made me sick with envy and hatred, so that I couldn't function in society. Why? Why? Because my own wife and children were killed in an air disaster in 1991, that's why, and I missed the plane because I was committing sin that day, and for my sin they died, and I lived thereafter in unending torment! But now all that is flushed from my mind. I have sinned, and I have suffered, and now I am redeemed through merciful oblivion!"

A voice in the crowd called, "If you've forgotten all about it, how come you're telling the story to us?"

"A good question! An excellent question!" Haldersen felt sweat bursting from his pores, adrenaline pumping in his veins. "I know the story only because a machine in the hospital told it to me, yesterday morning. But it came to me from the outside, a secondhand tale. The experience of it within me, the scars, all that has been washed away. The pain of it is gone. Oh, yes, I'm sad that my innocent family perished, but a healthy man learns to control his grief after eleven years, he accepts *his* loss and goes on. I was sick, sick right *here,* and I couldn't live with my grief, but now I can, I look on it objectively, do you see? And that's why I say there's a blessing in being able to ferget. What about you, out there? There must be some of you who suffered painful losses too, and now can no longer remember them, now have been redeemed and released from anguish, Are there any? Are there?

Raise your hands. Who's been bathed in holy oblivion? Who out there knows that he's been cleansed, even if he can't remember what it is he's been cleansed from?"

Hands were starting to go up.

They were weeping, now, they were cheering, they were waving at him. Haldersen felt a little like a charlatan, But only a little. He had always had the stuff of a prophet in him, even while he was posing as a harmless academic, a stuffy professor of philosophy. He had had what every prophet needs, a sharp sense of contrast between guilt and purity, an awareness of the existence of sin. It was that awareness that had crushed him for eleven years. It was that awareness that now drove him to celebrate his joy in public, to seek for companions in liberation-no, for disciples-to found the Church of Oblivion here in Golden Gate Park. The hospital could have given him these drugs years ago and spared him from agony. Bryce had refused, Kamakura, Reynolds, aH the smooth-talking doctors; they were waiting for more tests, experiments on chimpanzees, God knows what. And God had said, Nathaniel Haldersen has suffered long enough for his sin, and so He had thrust a drug into the water supply of San Francisco, the same drug that the doctors had denied him, and down the pipes from the mountains had come the sweet draught of oblivion.

"Drink with me!" Haldersen shouted. "All you who are in pain, you who live with sorrow! We'll get this drug ourselves!

We'll purify our suffering souls! Drink the blessed water, and sing to the glory of God who gives us oblivion!"

Freddy Munson had spent Thursday afternoon, Thursday night, and all of Friday holed up in his apartment with every communications link to the outside turned off. He neither took nor made calls, ignored the telescreens$_t$ and had switched on the xerofax only three times in the thirty-six hours.

He knew that he was finished, and he was trying to decide how to react to it.

His memory situation seemed to have stabilized. He was still missing only five weeks of market maneuvers. There wasn't any further decay-not that that mattered; he was in trouble enough-and, despite an optimistic statement last night by Mayor Chase, Munson hadn't seen any evidence that the memory loss was reversing itself. He was unable to reconstruct any of the vanished details.

There was no immediate peril, he knew. Most of the clients whose accounts he'd been juggling were wealthy old bats who wouldn't worry about their stocks until they got next month's account statements. They had given him discretionary powers, which was how he had been table to tap their resources for his own benefit in the first place. Up to now, Munson had always been able to complete each

transaction within a single month, so the account balanced for every statement. He had dealt with the problem of the securities withdrawals that the statements ought to show by gimmicking the house computer to delete all such withdrawals provided there was no net effect from month to month; that way he could borrow 10,000 shares of United Spaceways or Comsat or IBM for two weeks, use the stock as collateral for a deal of his own, and get it back into the proper account in time with no one the wiser. Three weeks from now, though, the end-of-the-month statements were going to go out showing all of his accounts peppered by inexplicable withdrawals, and he was going to catch hell.

The trouble might even start earlier, and come from a different direction. Since the San Francisco trouble had begun, the market had gone down sharply, and he would probably be getting margin calls on Monday. The San Francisco exchange was closed, of course; it hadn't been able to open Thursday morning because so many of the brokers had been hit hard by amnesia. But New York's exchanges were open, and they had reacted badly to the news from San Francisco, probably out of fear that a conspiracy was afoot and the whole country might soon be pushed into chaos. When the local exchange opened again on Monday, if it opened, it would most likely open at the last New York prices, or near them, and keep on going down. Munson would be asked to put up cash or additional securities to cover his loans. He certainly didn't have the cash, and the only way he could get additional securities would be to dip into still more of his accounts, compounding his offense; on the other hand, if he didn't meet the margin calls they'd sell him out and he'd never be able to restore the stock to the proper accounts, even if he succeeded in remembering which shares went where,

He was trapped. He could stick around for a few weeks, waiting for the ax to fall, or he could get out right now. He preferred to get out right now.

And go where?

Caracas? Reno? Sao Paulo? No, debtor sanctuaries wouldn't do him any good, because he wasn't an ordinary debtor. He was a thief, and the sanctuaries didn't protect criminals, only bankrupts. He had to go farther, all the way to Luna Dome. There wasn't any extradition from the Moon. There'd be no hope of coming back, either.

Munson got on the phone, hoping to reach his travel agent. Two tickets to Luna, please. One for him, one for Helene; if she didn't feel like coming, he'd go alone. No, not round trip. But the agent didn't answer. Munson tried the number several times. Shrugging, he decided to order direct, and called United Spaceways next. He got a busy signal. "Shall we waitlist your call?" the data net asked. "It will

be three days, at the present state of the backlog of calls, before we can put it through."

"Forget it," Munson said.

He had just realized that San Francisco was closed off, anyway. Unless he tried to swim for it, he couldn't get out of the city to go to the spaceport, even if he did manage to buy tickets to Luna. He was caught here until they opened the transit routes again. How long would that be? Monday, Tuesday, next Friday? They couldn't keep the city shut forever-could they?

What it came down to, Munson saw, was a contest of probabilities. Would someone discover the discrepancies in his accounts before he found a way of escaping to Luna, or would his escape access become available too late? Pat on those terms, it became an interesting gamble instead of a panic situation. He would spend the weekend trying to find a way out of San Francisco, and if he failed, he would try to be a stoic about facing what was to come.

Calm, now, he remembered that he had promised to lend Paul Mueller a few thousand dollars, to help him equip his studio again. Munson was unhappy over having let that slip his mind. He liked to be helpful. And, even now, what were two or three bigs to him? He had plenty of recoverable assets. Might as well let Paul have a little of the money before the lawyers start grabbing it.

One problem. He had less than a hundred in cash on him- who bothered carrying cash?-and he couldn't telephone a transfer of funds to Mueller's account, because Paul didn't have an account with the data net any more, or even a phone. There wasn't any place to get that much cash, either, at this hour of evening, especially with the city paralyzed. And the weekend was coming. Munson had an idea, though. What if he went shopping with Mueller tomorrow, and simply charged whatever the sculptor needed to his own account? Fine, He reached for the phone to arrange the date, remembered that Mueller could not be called, and decided to tell Paul about it in person. Now. He could use some fresh air, anyway.

He half expected to find robot bailiffs outside, waiting to arrest him. But of course no one was after him yet. He walked to the garage. It was a fine night, cool, starry, with perhaps just a hint of fog in the east. Berkeley's lights glittered through the haze, though. The streets were quiet. In time of crisis people stay home, apparently. He drove quickly to Mueller's place. Four robots were in front of it. Munson eyed them edgily, with the wary look of the man who knows that the sheriff will be after him too, in a little while. But Mueller, when he came to the door, took no notice of the dunners.

Munson said, "I'm sorry I missed connections with you. The money I promised to lend you-"

"It's all right, Freddy. Pete Castine was here this morning and I borrowed the three bigs from him. I've already got my studio set up again. Come in and look."

Munson entered. "Pete Castine?"

"A good investment for him. He makes money if he has work of mine to sell, right? It's in his best interest to help me get started again. Carole and I have been hooking things up all day."

"Carole?" Munson said. Mueller showed him into the studio. The paraphernalia of a sonic sculptor sat on the floor- a welding pen, a vacuum bell, a big texturing vat, some ingots and strands of wire, and such things, Carole was feeding discarded packing cases into the wall disposal unit. Looking up, she smiled uncertainly and ran her hand through her long dark hair.

"Hello, Freddy."

"Everybody good friends again?" he asked; baffled.

"Nobody remembers being enemies," she said. She laughed. "Isn't it wonderful to have your memory blotted out like this?"

"Wonderful," Munson said bleakly.

Commander Braskett said, "Can I offer you people any water?"

Tim Bryce smiled. Lisa Bryce smiled. Ted Kamakura smiled. Even Mayor Chase, that poor empty husk, smiled. Commander Braskett understood those smiles. Even now, after three days of close contact under pressure, they thought he was nuts.

He had had a week's supply of bottled water brought from his home to the command post here at the hospital. Everybody kept telling him that the municipal water was safe to drink now, that the memory drugs were gone from it; but why couldn't they comprehend that his aversion to public water dated back to an era when memory drugs were un-known? There were plenty of other chemicals in the reservoir, after all.

He hoisted bis glass in a jaunty toast and winked at them.

Tim Bryce said, "Commander, we'd like you to address the city again at half past ten this morning. Here's your text,"

Braskett scanned the sheet. It dealt mostly with the relaxation of the order to boil water before drinking it. "You want me to go on all media," he said, "and tell the people of San Francisco that it's now safe for them to drink from the taps, eh? That's a bit awkward for me. Even a figurehead spokesman is entitled to some degree of personal integrity."

Bryce looked briefly puzzled, Then he laughed and took the text back. "You're absolutely right, Commander. I can't ask you to make this announcement, in view of-ah-your particular beliefs. Let's change the plan. You open the spot by introducing me, and *I'll* discuss the no-boiling thing. Will that be all right?"

Commander Braskett appreciated the tactful way they deferred to his special obsession. "I'm at your service, Doctor," he said gravely.

Bryce finished speaking and the camera lights left him. He said to Lisa, "What about lunch? Or breakfast, or whatever meal it is we're up to now."

"Everything's ready, Tim. Whenever you" are."

They ate together in the holograph room, which had become the kitchen of the command post. Massive cameras and tanks of etching fluid surrounded them. The others thoughtfully left them alone. These brief shared meals were the only fragments of privacy he and Lisa had had, in the fifty-two hours since he had awakened to find her sleeping beside him.

He stared across the table in wonder at this delectable blond girl who they said was his wife. How beautiful her soft brown eyes were against that backdrop of golden hair! How perfect the line of her lips, the curve of her earlobes! Bryce knew that no one would object if he and Lisa went off and locked themselves into one of the private rooms for a few hours. He wasn't that indispensable; and there was so much he had to begin relearning about his wife. But he was unable to leave his post. He hadn't been out of the hospital or even off this floor for the duration of the crisis; he kept himself going by grabbing the sleep wire for half an hour every six hours. Perhaps it was an illusiop born of too little sleep and too much data, but he had come to believe that the survival of the city depended on him. He had spent his career trying to heal individual sick minds; now he had a whole city to tend to.

"Tired?" Lisa asked.

"I'm in that tiredness beyond feeling tired. My mind is so clear that my skull wouldn't cast a shadow. I'm nearing nirvana."

"The worst is over, I think. The city's settling down."

"It's still bad, though. Have you seen the suicide figures?"

"Bad?"

"Hideous. The norm in San Francisco is 220 a year. We've had close to five hundred in the last two and a half days. And that's just the reported cases, the bodies discovered, and so on. Probably we can double the figure. Thirty suicides reported Wednesday night, about two hundred on Thursday, the same on Friday, and about fifty so far this morning. At least it seems as if the wave is past its peak."

"But *why,* Tim?"

"Some people react poorly to loss. Especially the loss of a segment of their memories. They're indignant-they're crashed-they're scared-and they reach for the exit pill. Suicide's too easy now, anyway. In the old days you reacted to frustration by smashing the crockery; now you go a deadlier route. Of course, there are special cases. A named

Montini they fished out of the bay-a professional mnemon-ist, who did a trick act in nightclubs, total recall. I can hardly blame him for caving in. And I suppose there were a lot of others who kept their business in their heads-gamblers, stock-market operators, oral poets, musicians-who might decide to end it all rather than try to pick up the pieces."

"But if the effects of the drug wear off-"

"Do they?" Bryce asked.

"You said so yourself."

"I was making optimistic noises for the benefit of the citizens. We don't have any experimental history for these drugs and human subjects. Hell, Lisa, we don't even know the dosage that was administered; by the time we were able to get water samples most of the system had been flushed clean, and the automatic monitoring devices at the city pumping stations were rigged as part of the conspiracy so they didn't show a thing out of the ordinary. I've got no idea at all if there's going to be any measurable memory recovery."

"But there is, Tim. I've already started to get some things back."

"What?"

"Don't scream at me like that! You scared me."

He clung to the edge of the table. "Are you really recovering?"

"Around the edges. I remember a few things already. About us."

"Like what?"

"Applying for the marriage license. I'm standing stark naked inside a diagnostat machine and a voice on the loudspeaker is telling me to look straight into the scanners. And I remember the ceremony, a little. Just a small group of friends, a civil ceremony. Then we took the pod to Acapulco."

He stared grimly. "When did this start to come back?"

"About seven this morning, I guess."

"Is there more?"

"A bit. Our honeymoon. The robot bellhop who came blundering in on our wedding night. You don't-"

"Remember it? No. No. Nothing. Blank."

"That's all I remember, this early stuff." "Yes, of course," he said. "The older memories are always the first to return in any form of amnesia. The last stuff in is the first to go." His hands were shaking, not entirely from fatigue. A strange desolation crept over him. Lisa remembered. He did not. Was it a function of her youth, or of the chemistry of her brain, or-?

He could not bear the thought that they no longer shared an oblivion. He didn't want the amnesia to become one-sided for them; it was humiliating not to remember his own marriage, when she did. You're being irrational, he told himself. Physician, heal thyself!

"Let's go back inside," he said.

"You haven't finished your-"

"Later."

He went into the command room. Kamakura had phones in both hands and was barking data into a recorder. The screens were alive with morning scenes, Saturday in the city, crowds in Union Square. Kamakura hung up both calls and said, "I've got an interesting report from Dr. Klein at Let-terman General. He says they're getting the first traces of memory recovery this morning. Women under thirty, only."

"Lisa says she's beginning to remember too," Bryce said.

"Women under thirty," said Kamakura. "Yes. Also the suicide rate is definitely tapering. We may be starting to come out of it."

"Terrific," Bryce said hollowly.

Haldersen was living in a ten-foot-high bubble that one of his disciples had blown for him in the middle of Golden Gate Park, just west of the Arboretum. Fifteen similar bubbles had gone up around his, giving the region the look of an up-to-date Eskimo village in plastic igloos. The occupants of the camp, aside from Haldersen, were men and women who had so little memory left that they did not know who they were or where they lived. He had acquired *a* dozen of these lost ones on Friday, and by late afternoon on Saturday he had been joined by some forty more. The news somehow was moving through the city that those without moorings were welcome to take up temporary residence with the group in the park. It had happened that way during the 1906 disaster, too.

The police had been around a few times to check on them. The first time, a portly lieutenant had tried to persuade the whole group to move to Fletcher Memorial, "That's where *most* of the victims are getting treatment, you see. The doctors give them something, and then we try to identify them and find their next of kin-"

"Perhaps it's best for these people to remain away from their next of kin for a while," Haldersen suggested. "Some meditation in the park-an exploration of the pleasures of having forgotten-that's all we're doing here," He would not go to Fletcher Memorial himself except under duress. As for the others, he felt he could do more for them in the park than anyone in the hospital could.

The second time the police came, Saturday afternoan when his group was much larger, they brought a mobile communications system. "Dr. Bryce of Fletcher Memorial wants to talk to you," a different lieutenant said. Haldersen watched the screen come alive. "Hello, Doctor, Worried about me?"

"I'm worried about everyone, Nate. What the hell are you doing in the park?"

"Founding a new religion, I think."

"You're a sick man. You ought to come back here."

"No, Doctor. I'm not sick any more. I've had my therapy and I'm fine. It was a beautiful treatment: selective obliteration, just as I prayed for. The entire trauma is gone."

Bryce appeared fascinated by that; his frowning expression of official responsibility vanished a moment, giving place to a look of professional concern. "Interesting," he said. "We've *got* people who've forgotten only nouns, and people who've forgotten who they married, and people who've forgotten how to play the violin. But you're the first one who's forgotten a trauma. You still ought to come back here, though. You aren't the best judge of your fitness to face the outside environment,"

"Oh, but I am," Haldersen said, "I'm doing fine. And my people need me."

"Your people?"

"Waifs. Strays. The total wipeouts."

"We want those people in the hospital, Nate. We want to get them back to their families."

"Is that necessarily a good deed? Maybe some of them can use a spell of isolation from their families. These people look happy, Dr. Bryce. I've heard there are a lot of suicides, but not here. We're practicing mutually supportive therapy. Looking for the joys to be found in oblivion. It seems to work,"

Bryce stared silently out of the screen for a long moment. Then he said impatiently, "All right, have it your own way for now. But I wish you'd stop coming on like Jesus and Freud combined, and leave the park. You're still a sick man, Nate, and the people with you are in serious trouble, I'll talk to you later."

The contact broke. The police, stymied, left.

Haldersen spoke briefly to his people at five o'clock. Then he sent them out as missionaries to collect other victims. "Save as many as you can," he said. "Find those who are in complete despair and get them into the park before they can take their own lives. Explain that the loss of one's past is not the loss of all things."

The disciples went forth. And came back leading those less fortunate than themselves. The group grew to more than one hundred by nightfall. Someone found the extruder again and blew twenty more bubbles as shelters for the night. Haldersen preached his sermon of joy, looking out at the blank eyes, the slack faces of those whose identities had washed away on Wednesday. "Why give up?" he asked them. "Now is your chance to create new lives for yourself. The slate is clean! Choose the direction you will take, define your new selves through the exercise of free will-you are reborn in holy oblivion, all of you. Rest, now, those who have just come to us. And you others, go

forth again, seek out the wanderers, the drifters, the lost ones hiding in the corners of the city-"

As he finished, he saw a knot of people bustling toward him from the direction of the South Drive. Fearing trouble, Haldersen went out to meet them; but as he drew close he saw half a dozen disciples, clutching a scruffy, unshaven, terrified little man. They hurled him at Haldersen's feet. The man quivered like a hare ringed by hounds. His eyes glistened; his wedge of a face, sharp-chinned, sharp of cheekbones, was pale.

"It's the one who poisoned the water supply!" someone called. "We found him in a rooming house on Judah Street. With a stack of drugs in his room, and the plans of the water system, and a bunch of computer programs. He admits it. He admits it!"

Haldersen looked down. "Is this true?" he asked. "Are you the one?"

The man nodded.

"What's your name?"

"Won't say. Want a lawyer."

"Kill him now!" a woman shrieked. "Pull his arms and legs off!"

"Kill him!" came an answering cry from the other side of the group. "Kill him!"

The congregation, Haldersen realized, might easily turn into a mob.

He said, "Tell me your name, and I'll protect you. Otherwise I can't be responsible."

"Skinner," the man muttered miserably.

"Skinner. And you contaminated the water supply."

Another nod.

"Why?"

"To get even."

"With whom?"

"Everyone. Everybody."

Classic paranoid. Haldersen felt pity. Not the others; they were calling out for blood.

A tall man bellowed, "Make the bastard drink his own drug!"

"No, kill him! Squash him!"

The voices became more menacing. The angry faces came closer.

"Listen to me," Haldersen called, and his voice cut through the murmurings. "There'll be no killing here tonight,"

"What are you going to do, give him to the police?"

"No," said Haldersen, "We'll hold communion together. We'll teach this pitiful man the blessings of oblivion, and then we'll share new joys ourselves. We are human beings. We have the capacity to forgive even the worst of sinners. Where are the memory drugs? Did someone

say you had found the memory drugs? Here. Here. Pass it up here. Yea, Brothers, sisters, let as show this dark and twisted soul the nature of redemption. Yes, Yes. Fetch some water, pleasfe. Thank you. Here, Skinner. Stand him up, will you? Hold his arms. Keep him from falling down. Wait a second, until I find the proper dose. Yes. Yes, Here, Skinner, Forgiveness, Sweet oblivion."

It was so good to be working again that Mueller didn't want to stop. By early afternoon on Saturday his studio was ready; he had long since worked out the sketches of the first piece; now it was just a matter of time and effort, and he'd have something to show Pete Castine. He worked on far into the evening, setting up his armature and running a few tests of the sound sequences that he proposed to build into the piece. He had some interesting new ideas about the sonic triggers, the devices that would set off the sound effect when the appreciator came within range. Carole had to tell him, finally, that dinner was ready. "I didn't want to interrupt you," she said, "but it looks like I have to, or you won't ever stop."

"Sorry. The creative ecstasy."

"Save some of that energy. There are other ecstasies. The ecstasy of dinner, first."

She had cooked everything herself. Beautiful, He went back to work again afterward, but at half past one in the morning Carole interrupted him. He was willing to stop, now. He had done an honest day's work, and he was sweaty with the noble sweat of a job well done. Two minutes under the molecular cleanser and the sweat was gone, but the good ache of virtuous fatigue remained. He hadn't felt this way in years.

He woke to Sunday thoughts of unpaid debts.

'The robots are still there," he said. "They won't go away, will they? Even though the whole city's at a standstill, nobody's told the robots to quit."

"Ignore them," Carole said.

"That's what I've been doing. But I can't ignore the debts. Ultimately there'll be a reckoning."

"You're working again, though! You'll have an income coming in."

"Do you know what I owe?" he asked. "Almost a million. If I produced one piece a week for a year, and sold each piece for twenty bigs, I might pay everything off. But I can't work that fast, and the market can't possibly absorb that many Muellers, and Pete certainly can't buy them all for future sale."

He noticed the way Carole's face darkened at the mention of Pete Castine.

He said, "You know what I'll have to do? Go to Caracas, like I was planning before this memory thing started. I can work there, and ship

my stuff to Pete. And maybe in two or three years I'll have paid off my debt, a hundred cents on the dollar, and I can start-fresh back here. Do you know if that's possible? I mean, if you jump to a debtor sanctuary, are you blackballed for credit forever, even if you pay off what you owe?"

"I don't know," Carole said distantly.

"I'll find that out later. The important thing is that I'm working again, and I've got to go someplace where I can work without being hounded. And then I'll pay everybody off. You'll come with me to Caracas, won't you?"

"Maybe we won't have to go," Carole said.

"But how-"

"You should be working now, shouldn't you?"

He worked, and while he worked he made lists of creditors in his mind, dreaming of the day when every name on every list was crossed off. When he got hungry he emerged from the studio and found Carole sitting gloomily in the living room. Her eyes were red and puffy-lidded.

"What's wrong?" he asked. "You don't want to go to Caracas?"

"Please, Paul-let's not talk about it-"

"I've really got no alternative. I mean, unless we pick one of the other sanctuaries. Sao Paulo? Spalato?"

"It isn't that, Paul."

"What, then?"

"I'm starting to remember again."

The air went out of him. "Oh," he said.

"I remember November, December, January. The crazy things you were doing, the loans, the financial juggling. And the quarrels we had. They were terrible quarrels."

"Oh."

"The divorce. I remember, Paul. It started coming back last night, but you were so happy I didnt want to say anything. And this morning it's much clearer. You still don't remember any of it?"

"Not a thing past last October."

"I do," she said, shakily. "You hit me, do you know that? You cut my lip. You slammed me against that wall, right over there, and then you threw the Chinese vase at me and it broke."

"Oh. Oh."

She went on, "I remember how good Pete was to me, too. I think I can almost remember marrying him, being his wife. Paul, I'm scared, I feel everything fitting into place in my mind, and it's as scary as if my mind was breaking into pieces. It was so good, Paul, these last few days. It was like being a newly wed with you again, But now all the sour parts are coming back, the hate, the ugliness, it's all alive for me

again. And I feel so bad about Pete. The two of us, Friday, shutting him out. He was a real gentleman about it. But the fact is that he saved me when I was going under, and I owe him something for that."

"What do you plan to do?" he asked quietly.

"I think I ought to go back to him, I'm his wife, I've got no right to stay here."

"But I'm not the same man you came to hate," Mueller protested. "I'm the old Paul, the one from last year and before. The man you loved. All the hateful stuff is gone from me."

"Not from me, though. Not now."

They were both silent,

"I think I should go back, Paul."

"Whatever you say."

"I think I should. I wish you all kinds of luck, but I can't stay here. Will it hurt your work if I leave again?"

"I won't know until you do."

She told him three or four more times that she felt she ought to go back to Castine, and then, politely, he suggested that she should go back right now, if that was how she felt, and she did. He spent half an hour wandering around the apartment, which seemed so awfully empty again. He nearly invited one of the dunning robots in for company. Instead, he went back to work. To his surprise, he worked quite well, and in an hour he had ceased thinking about Carole entirely.

Sunday afternoon, Freddy Munson set up a credit transfer and managed to get most of his liquid assets fed into an old account he kept at the Bank of Luna. Toward evening, he went down to the wharf and boarded a three-man hovercraft owned by a fisherman willing to take his chances with the law. They slipped out into the bay without running lights and crossed the bay on a big diagonal, landing some time later a few miles north of Berkeley. Munson found a cab to take him to the Oakland airport, and caught the midnight shuttle to L.A., where, after a lot of fancy talking, he was able to buy his way aboard the next Luna-bound rocket, lifting off at ten o'clock Monday morning. He spent the night in the spaceport terminal. He had taken with him nothing except the clothes he wore; his fine possessions, his paintings, his suits, his Mueller sculptures, and all the rest remained in his apartment, and ultimately would be sold to satisfy the judgments against him. Too bad. He knew that he wouldn't be coming back to Earth again, either, not with a larceny warrant or worse awaiting him. Also too bad. It had been so nice for so long, here, and who needed a memory drug in the water supply? Munson had only one consolation. It was an article of his philosophy that sooner or later, no matter how neatly you organized your life, fate opened a trapdoor underneath

your feet and catapulted you into something unknown and unpleasant. Now he knew that it was true, even for him.

Too, too bad. He wondered what his chances were of starting over up there. Did they need stockbrokers on the Moon?

Addressing the citizenry on Monday night, Commander Braskett said, 'The committee of public safety is pleased to report that we have come through the worst part of the crisis. As many of you have already discovered, memories are beginning to return. The process of recovery will be more swift for some than others, but great progress has been made. Effective at six am tomorrow, access routes to and from San Francisco will reopen. There will be normal mail service and many businesses will return to normal. Fellow citizens, we have demonstrated once again the real fiber of the American spirit. The Founding Fathers must be smiling down upon us today! How superbly we avoided chaos, and how beautifully we pulled together to help one another in what could have been an hour of turmoil and despair!

"Dr. Bryce requests me to remind you that anyone still suffering severe impairment of memory-especially those experiencing loss of identity, confusion of vital functions, or other disability-should report to the emergency ward at Fletcher Memorial Hospital. Treatment is available there, and computer analysis is at the service of those unable to find their homes and loved ones. I repeat-"

Tim Bryce wished that the good commander hadn't slipped in that plug for the real fiber of the American spirit, especially in view of the necessity to invite the remaining victims to the hospital with his next words. But it would be uncharitable to object. The old spaceman had done a beautiful job all weekend as the Voice of the Crisis, and some patriotic embellishments now were harmless.

The crisis, of course, was nowhere near as close to being over as Commander Braskett's speech had suggested, but public confidence had to be buoyed.

Bryce had the latest figures. Suicides now totaled 900 since the start of trouble on Wednesday; Sunday had been an unexpectedly bad day. At least 40,000 people were still unaccounted for, although they were tracing 1,000 an hour and getting them back to their families or else into an intensive-care section. Probably 760,000 more continued to have memory difficulties. Most children had fully recovered, and many of the women were mending; but older people, and men in general, had experienced scarcely any memory recapture. Even those who were nearly healed had no recall of events of Tuesday and Wednesday, and probably never would; for large numbers of people, though, big blocks of the past would have to be learned from the outside, like history lessons.

Lisa was teaching him their marriage that way.

The trips they had taken-the good times, the bad-the parties, the friends, the shared dreams-she described everything, as vividly as she could, and he fastened on each anecdote, trying to make it a part of himself again. He knew it was hopeless, really. He'd know the outlines, never the substance. Yet it was probably the best he could hope for.

He was so horribly tired, suddenly.

He said to Kamakura, "Is there anything new from the park yet? That rumor that Haldersen's actually got a supply of the drug?"

"Seems to be true, Tim. The word is that he and his friends caught the character who spiked the water supply, and relieved him of a roomful of various amnesifacients,"

"We've got to seize them," Bryce said.

Kamakura shook his head. "Not just yet. Police are afraid of any actions in the park. They say it's a volatile situation."

"But if those drugs are loose-"

"Let me worry about it, Tim. Look, why don't you and Lisa ' go home for a while? You've been here without a break since Thursday."

"So have-"

"No. Everybody else has had a breather. Go on, now. We're over the worst. Relax, get some real sleep, make some love. Get to know that gorgeous wife of yours again a little."

Bryce reddened. "I'd rather stay here until I feel I can afford to leave."

Scowling, Kamakura walked away from him to confer with Commander Braskett. Bryce scanned the screens, trying to figure out what was going on in the park. A moment later, Braskett walked over to him,

"Dr. Bryce?"

"What?"

"You're relieved of duty until sundown Tuesday."

"Wait a second-"

That's an order, Doctor. I'm chairman of the committee of public safety, and I'm telling you to get yourself out of this hospital. You aren't going to disobey an order, are you?"

"Listen, Commander-"

"Out, No mutiny, Bryce. Out! Orders."

Bryce tried to protest, but he was too weary to put up much of a. fight. By noon, he was on his way home, soupy-headed with fatigue. Lisa drove. He sat quite *still,,* struggling to remember details of his marriage. Nothing came.

She put him to bed. He wasn't sure how long he slept; but then he felt her against him, warm, satin-smooth,

"Hello," she said. "Remember me?"

"Yes," he lied gratefully. "Oh, yes, yes, yes!"

Working right through the night, Mueller finished his armature by dawn on Monday. He slept a while, and in early afternoon began to paint the inner strips of loudspeakers on: a thousand speakers to the inch, no more than a few molecules thick, from which the sounds of his sculpture would issue in resonant fullness. When that was done, he paused to contemplate the needs of his sculpture's superstructure, and by seven that night was ready to move to the next phase. The demons of creativity possessed him; he saw no reason to eat and scarcely any to sleep.

At eight, just as he was getting up momentum for the long night's work, he heard a knock at the door. Carole's signal. He had disconnected the doorbell, and robots didn't have the sense to knock. Uneasily, he went to the door. She was there.

"So?" he said.

"So I came back. So it starts all.over."

"What's going on?"

"Can I come in?" she asked.

"I suppose. I'm working, but come in."

She said, "I talked it all over with Pete, We both decided I ought to go back to you."

"You aren't much for consistency, are you?" he asked.

"I have to take things as they happen. When I lost my memory, I came to you. When I remembered things again, I felt I ought to leave, I didn't *want* to leave. I felt I *ought* to leave. There's a difference."

"Really," he said.

"Really. I went to Pete, but I didn't want to be with him. I wanted to be here."

"I hit you and made your lip bleed. I threw the Ming vase at you."

"It wasn't Ming, it was K'ang-hsi."

"Pardon me. My memory still isn't so good. Anyway, I did terrible things to you, and you hated me enough to want a divorce. So why come back?"

"You were right, yesterday. You aren't the man I came to hate. You're the old Paul."

"And if my memory of the past nine months returns?"

"Even so," she said. "People change. You've been through hell and come out the other side. You're working again. You aren't sullen and nasty and confused. We'll go to Caracas, or wherever you want, and you'll do your work and pay your debts, just as you said yesterday."

"And Pete?"

"He'll arrange an annulment. He's being swell about it."

"Good old Pete," Mueller said. He shook his head. "How long will the neat happy ending last, Carole? If you think there's a chance you'll

be bounding back in the other direction by Wednesday, say so now. I'd rather not get involved again, in that case."

"No chance. None."

"Unless I throw the Ch'ien-lung vase at you."

"K'ang-hsi," she said.

"Yes. K'ang-hsi." He managed to grin. Suddenly he felt the accumulated fatigue of these days register all at once. "I've been working too hard," he said. "An orgy of creativity to make up for lost time. Let's go for a walk,"

"Fine," she said.

They went out, just as a dunning robot was arriving. "Top of the evening to you, sir," Mueller said.

"Mr. Mueller, I represent the accounts receivable depart- j ment of the Acme Brass and-"

"See my attorney," he said.

Fog was rolling in off the sea now. There were no stars. The downtown lights were invisible. He and Carole walked $_t$ west, toward the park. He felt strangely light-headed, not f entirely from lack of sleep. Reality and dream had merged; these were unusual days. They entered the park from the Panhandle and strolled toward the museum area, arm in arm, saying nothing much to one another. As they passed | the conservatory Mueller became aware of a crowd up ahead, thousands of people staring in the direction of the music shell.

"What do you think is going on?" Carole asked. Mueller shrugged. They edged through the crowd,

Ten minutes later they were close enough to see the stage. A tall, thin, wild-looking man with unruly yellow hair was on the stage. Beside him was a small, scrawny man in ragged clothing, and there were a dozen other flanking them, carrying ceramic bowls.

"What's happening?" Mueller asked someone in the crowd.

"Religious ceremony."

"Eh?"

"New religion. Church of Oblivion. That's the head prophet up there. You haven't heard about it yet?"

"Not a thing."

"Started around Friday. You see that ratty-looking character next to the prophet?"

"Yes."

"He's the one that put the stuff in the water supply. He confessed and they made him drink his own drug. Now he doesn't remember a thing, and he's the assistant prophet. Craziest damn stuff!"

"And what are they doing up there?"

"They've got the drug in those bowls. They drink and forget some more. They drink and forget some more."

The gathering fog absorbed the sounds of those on the stage. Mueller strained to listen. He saw the bright eyes of fanaticism; the alleged contaminator of the water looked positively radiant. Words drifted out into the night.

"Brothers and sisters… the joy, the sweetness of forgetting… come up here with us, take communion with us… oblivion,… redemption,… even the most wicked… forget… forget…"

They were passing the bowls around on stage, drinking, smiling. People were going up to receive communion, taking a bowl, sipping, nodding happily. Toward the rear of the stage the bowls were being refilled by three sober-looking functionaries.

Mueller felt a chill. He suspected that what had been born in this park during this week would endure, somehow, long after the crisis of San Francisco had become part of history; and it seemed to him that something new and frightening had been loosed upon the land.

"Take,,, drink… forget…," the prophet cried.

And the worshipers cried, *"Take… drink… forget…"*

The bowls were passed.

"What's it all *about?"* Carole whispered.

"Take… drink… forget…"

"Take… drink… forget…"

"Blessed is sweet oblivion."

"Blessed is sweet oblivion."

"Sweet it is to lay down the burden of one's soul."

"Sweet it is to lay down the burden of one's soul."

"Joyous it is to begin anew."

"Joyous it is to begin anew."

The fog was deepening. Mueller could barely see the aquarium building just across the way. He clasped his hand tightly around Carole's and began to think about getting out of the park.

He had to admit, though, that these people might have hit on something true. Was he not better off for having taken a chemical into his bloodstream, and thereby shedding a portion of his past? Yes, of course. And yet-to mutilate one's mind this way, deliberately, happily, to drink deep of oblivion-

"Blessed are those who are able to forget," the prophet said.

"Blessed are those who are able to forget," the crowd roared in response.

"Blessed are those-who are able to forget," Mueller heard his own voice cry. And he began to tremble. And he felt sudden fear. He sensed the power of this strange new movement, the gathering strength of the prophet's appeal to unreason. It was time for a new religion, maybe, a cult that offered emancipation from all inner burdens. They would synthesize this drug and turn it out by the ton,

Mueller thought, and repeatedly dose cities with it, so that everyone could be converted, so that everyone might taste the joys of oblivion. No one will be able to stop them. After a while, no one will *want* to stop them. And so we'll go on, drinking deep, until we're washed clean of all pain and all sorrow, of all sad recollection, we'll sip a cup of kindness and part with auld lang syne, we'll give up the griefs we carry around, and we'll give up everything else, identity, soul, self, mind. We will drink sweet oblivion. Mueller shivered. Turning suddenly, tugging roughly at Carole's arm, he pushed through the joyful worshiping crowd, and hunted somberly in the fog-wrapped night, trying to find some way out of the park.

Shark Ship
by Cm. Kornbluth

It was the spring swarming of the plankton; every man and woman and most of the children aboard Grenville's Convoy had a job to do, As the seventy-five gigantic sailing ships ploughed their two degrees of the South Atlantic, the fluid that foamed beneath their cutwaters seethed also with life. In the few weeks of the swarming, in the few meters-of surface water where sunlight penetrated in sufficient strength *to* trigger photosynthesis, microscopic spores burst into microscopic plants, were devoured by minute animals which in turn were swept into the maws of barely visible sea monsters almost a tenth of an inch from head to tail; these in turn were fiercely pursued and gobbled in shoals by the fierce little brit, the tiny herring and shrimp that could turn a hundred miles of green water to molten silver before your eyes.

Through the silver ocean of the swarming the Convoy scudded and tacked in great controlled zigs and zags, reaping the silver of the sea in the endlessly reeling bronze nets each, ship payed out behind.

The Commodore in *Grenville* did not sleep during the swarming; he and his staff dispatched cutters to scout the swarms, hung on the meteorologists' words, digested the endless reports from the scout vessels, and toiled through the night to prepare the dawn signal. The mainmast flags might tell the captains "Convoy course five degrees right," or "Two degrees left," or only "Convoy course; no change." On those dawn signals depended the life for the next six months of the million and a quarter souls of the Convoy. It had not happened often, but it had happened that a succession of blunders reduced a convoy's harvest below the minimum necessary *to* sustain life. Derelicts were sometimes sighted and salvaged from such convoys; strong-stomached men and women were needed for the first boarding and clearing away of human debris. Cannibalism occurred, an obscene thing one had nightmares about.

The seventy-five captains had their own particular purgatory to endure throughout the harvest, the Sail-Seine Equation. It was their job to balance the push on the sails and the drag of the ballooning seines so that push exceeded drag by just the number of pounds that would keep the ship on course and in station, given every conceivable variation of wind force and direction, temperature of water, consistency of brit, and smoothness of hull. Once the catch was salted down it was customary for the captains to converge on *Gren-ville* for a roaring feast by way of letdown.

Rank had its privileges. There was no such relief for the captains' Net Officers or their underlings in Operations and Maintenance, or for their Food Officers under whom served the Processing and Stowage people. They merely worked, streaming the nets twenty-four hours a day, keeping them bellied out with lines from mast and outriding gigs, keeping them spooling over the great drum amidships, tending the blades that had to scrape the brit from the nets, without damaging the nets, repairing the damage when it did occur; and without interruption of the harvest, flash-cooking the part of the harvest to be cooked, drying the part to be dried, pressing oil from the harvest as required, and stowing what was cooked and dried and pressed where it would not spoil, where it would not alter the trim of the ship, where it would not be pilfered by children. This went on for weeks after the silver had gone thin and patchy against the green, and after the silver had altogether vanished.

The routines of many were not changed at all by the swarming season. The blacksmiths, the sailmakers, the carpenters, the watertenders, to a degree the storekeepers, functioned as before, tending to the fabric of the ship, renewing, replacing, reworking. The ships were things of brass, bronze, and unrusting steel. Phosphor-bronze strands were woven into net, lines, and cables; cordage, masts and hull were metal; all were inspected daily by the First Officer and his men and women for the smallest pinhead of corrosion. The smallest pinhead of corrosion could spread; it could send a ship to the bottom before it had done spreading, as the chaplains were fond of reminding worshipers when the ships rigged for church on Sundays. To keep the hellish red of iron rust and the sinister blue of copper rust from invading, the squads of oilers were always on the move, with oil distilled from the catch. The sails and the clothes alone could not be preserved; they wore out. It was for this that the felting machines down below chopped wornout sails and clothing into new fibers and twisted and rolled them with kelp and glue from the catch into new felt for new sails and clothing.

While the plankton continued to swarm twice a year, Grenville's Convoy could continue to sail the South Atlantic, from ten-mile limit to ten-mile limit. Not one of the seventy-five ships in the Convoy had an anchor.

The Captains' Party that followed the end of Swarming 283 was slow getting under way. McBee, whose ship was Port Squadron 19, said to Salter of Starboard Squadron 30: "To be frank, I'm too damned exhausted to care whether I ever go to another party, but I didn't want to disappoint the Old Man."

The Commodore, trim and bronzed, not showing his eighty years, was across the great cabin from them greeting new arrivals.

Salter said: "You'll feel differently after a good sleep. It was a great harvest, wasn't it? Enough weather to make it tricky and interesting. Remember 276? *That* was the one that wore me out. A grind, going by the book. But this time, on the fifteenth day my foretopsail was going to go about noon, big rip in her, but I needed her for my S-S balance. What to do? I broke out a balloon spinnaker-now wait a minute, let me tell it first before you throw the book at me-and pumped my fore trim tank out. Presto! No trouble; foretopsail replaced in fifteen minutes."

McBee was horrified. "You could have lost your net!" "My weatherman absolutely ruled out any sudden squalls." "Weatherman. You could have lost your net!" Salter studied him. "Saying that once was thoughtless, McBee. Saying it twice is insulting. Do you think I'd gamble with twenty thousand lives?"

McBee passed his hands over his tired face. “I'm sorry” he said. "I told you I was exhausted. Of course under special circumstances, it can be a safe maneuver." He walked to a porthole for a glance at his own ship, the nineteenth in the long echelon behind *Grerwille.* Salter stared after him, "Losing one's net," was a phrase that occurred in several proverbs; it stood for abysmal folly. In actuality a ship that lost its phosphor-bronze wire mesh was doomed, and quickly. One could improvise with sails or try to jury-rig a net out of the remaining rigging, but not well enough to feed twenty thousand hands, and no fewer than that were needed, for maintenance. Grenville's Convoy had met a derelict which lost its net back before 240; children still told horror stories about it, how the remnants of port and starboard watches, mad to a man, were at war, a war of vicious night forays with knives and clubs.

Salter went to the bar and accepted from the Commodore's steward his first drink of the evening, a steel tumbler of colorless fluid distilled from a fermented mash of sargassum weed. It was about forty percent alcohol and tasted pleasantly of iodides.

He looked up from his sip and his eyes widened. There was a man in captain's uniform talking with the Commodore and he did not recognize his face. But there had been no promotions lately!

The Commodore saw him looking and beckoned him over. He saluted and then accepted the old man's handclasp, "Captain Slater," the Commodore said, "my youngest and rashest, and my best harvester; Salter, this is Captain Degerand of the White Fleet."

Salter frankly gawked. He knew perfectly well that Grenville's Convoy was far from sailing alone upon the seas. On watch he had beheld distant sails from time to time. He was aware that cruising the two-degree belt north of theirs was another convoy and that in the belt south of theirs was still another, in fact that the seaborne

population of the world was a constant one billion, eighty million. But never had he expected to meet face to face any of them except the one and a quarter million who sailed under Grenville's flag,

Degerand was younger than he, all deeply tanned skin and flashing pointed teeth. His uniform was perfectly ordinary and very queer. He understood Salter's puzzled look. "It's woven cloth," he said. 'The White Fleet was launched several decades after Grenville's. By then they had machinery to reconstitute fibers suitable for spinning and they equipped us with it. It's six of one and half a dozen of the other. I think our sails may last longer than yours, but the looms require a lot of skilled labor when they break down."

The Commodore had left them.

"Are we very different from you?" Salter asked.

Degerand said: "Our differences are nothing. Against the dirt men we are brothers-blood brothers."

The term "dirt men" was discomforting; the juxtaposition with "blood" more so. Apparently he was referring to whoever it was that lived on the continents and islands-a shocking breach of manners, of honor, of faith. The words of the Charter circled through Salter's head: "… return for the sea and its bounty… renounce and abjure the land from which we-" Salter had been ten years old before he knew that there *were* continents and islands. His dismay must have shown on his face.

"They have doomed us," the foreign captain said. "We cannot refit. They have sent us out, each upon our two degrees of ocean in larger or smaller convoys as the richness of the brit dictated, and they have cut us off. To each of us will come the catastrophic storm, and bad harvest, the lost net, and death."

It was Salter's impression that Degerand had said the same words many times before, usually to large audiences.

The Commodore's talker boomed out: "Now hear this!" His huge voice filled the stateroom easily; his usual job was to roar through a megaphone across a league of ocean, supplementing flag and lamp signals, "Now hear this!" he boomed. "There's tuna on the table-big fish for big sailors'."

A grinning steward whisked a felt from the sideboard, and there by Heaven it lay! A great baked fish as long as your leg, smoking hot and trimmed with kelp! A hungry roar greeted it; the captains made for the stack of trays and began to file past the steward, busy with knife and steel.

Salter marveled to Degerand: *"I* didn't dream there were any left that size. When you think of the tons of brit that old-timer must have gobbled!"

The foreigner said darkly: "We slew the whales, the sharks, the

perch, the cod, the herring-everything that used the sea but us. They fed on brit and one another and concentrated it in firm savory flesh like that, but we were jealous of the energy squandered in the long food chain; we decreed that the chain would stop with the link brit-to-man."

Salter by then had filled a tray. "Brit's more reliable," he said. "A convoy can't take chances on fisherman's luck." He happily bolted a steaming mouthful.

"Safety is not everything," Degerand said. He ate, more slowly than Salter. "Your Commodore said you were a rash seaman."

"He was joking. If he believed that, he would have to remove me from command."

The Commodore walked up to them, patting his mouth with a handkerchief and beaming "Surprised, eh?" he demanded. "Glasgow's lookout spotted that big fellow yesterday half a kilometer away. He signaled me and I told him to lower and row for him. The boat crew sneaked up while he was browsing and gaffed him clean. Very virtuous of us. By killing him we economize on brit and provide a fitting celebration for my captains. Eat hearty! It may be the last we'll ever see."

Degerand rudely contradicted his senior officer. "They can't be wiped out clean, Commodore, not exterminated. The sea is deep. Its genetic potential cannot be destroyed We merely make temporary alterations of the feeding balance."

"Seen any sperm whale lately?" the Commodore asked, raising his white eyebrows. "Go get yourself another helping, captain, before it's gone." It was a dismissal; the foreigner bowed and went to the buffet.

The Commodore asked: "What do you think of him?"

"He has some extreme ideas," Salter said.

"The White Fleet appears to have gone bad," the old man said. "That fellow showed up on a cutter last week in the middle of harvest wanting my immediate, personal attention. He's on the staff of the White Fleet Commodore. I gather they're all like him. They've got slack; maybe rust has got ahead of them, maybe they're overbreeding. A ship lost its net and they didn't let it go. They cannibalized rigging from the whole fleet to make a net for it."

"But-"

"But-but-but. Of course it was the wrong thing and now they're all suffering. Now they haven't the stomach to draw lots and cut their losses." He lowered his voice. "Their idea is some sort of raid on the Western Continent, that America thing, for steel and bronze and whatever else they find not welded to the deck. It's nonsense, of course, spawned by a few silly-clever people on the staff. The crews will never go along with it. Degerand was sent to invite us in!"

Salter said nothing for a while and then: "I certainly hope we'll have nothing to do with it."

"I'm sending him back at dawn with my compliments, and a negative, and my sincere advice to his Commodore'that he drop the whole thing before his own crew hears of it and has him bowspritted." The Commodore gave him a wintry smile. "Such a reply is easy to make, of course, just after concluding an excellent harvest. It might be more difficult to signal a negative if we had a couple of ships unnetted and only enough catch in salt to feed sixty per cent of the hands. Do you think you could give the hard answer under those circumstances?"

"I think so, sir."

The Commodore walked away, his face enigmatic. Salter thought he knew what was going en. He had been given one small foretaste of top command. Perhaps he was being groomed for Commodore-not to succeed the old man, surely, but his successor.

McBee approached, full of big fish and drink. "Foolish thing I said," he stammered. "Let's have drink, forget about it, eh?"

He was glad to.

"Damn fine seaman'" McBee yelled after a couple more drinks. "Best little captain in the Convoy! Not a scared old crock like poor old McBee, 'fraid of every puff of wind!"

And then he had to cheer up MeBee until the party began to thin out. McBee fell asleep at last and Salter saw him to his gig before boarding his own for the long row to the bobbing masthead lights of his ship.

Starboard Squadron 30-was at rest in the night. Only the slowly moving oil lamps of the women on their ceaseless rust patrol were alive. The brit catch, dried, came to some seven thousand tons. It was a comfortable margin over the 5670 tons needed for six months full rations before the autumnal swarming and harvest. The trim tanks along the keel had been pumped almost dry by the ship's current prison population as the cooked and dried and salted cubes were stored in the glass-lined warehouse tier; the gigantic vessel rode easily on a swelling sea before a Force One westerly breeze.

Salter was exhausted. He thought briefly of having his cox'n whistle for a bosun's chair so that he might be hauled at his ease up the fifty-yard cliff that was the "hull before them, and dismissed the idea with regret. Rank hath its privileges and also its obligations. He stood up in the gig, jumped for the ladder, and began the long climb. As he passed the portholes of the cabin tiers he virtuously kept eyes front, on the bronze plates of the hull inches from Ms nose. Many couples in the privacy of their double cabins would be celebrating the end of the back-breaking, night-and-day toil. One valued privacy aboard the ship; one's own 648 cubic feet of cabin, one's own

porthole, acquired an almost religious meaning, particularly after the weeks of swarming cooperative labor.

Taking care not to pant, he finished the climb with a floorish, springing onto the flush deck. There was no audience. Feeling a little ridiculous and forsaken, he walked aft in the dark with only the wind and the creak of the rigging in his ears. The five great basket masts strained silently behind their breeze-filled sails; he paused a moment beside Wednesday mast, huge as a redwood, and put his hands on it to feel the power that vibrated in its steel latticework.

Six intent women went past, their hand lamps sweeping the deck; he jumped, though they never noticed him. They were in something like a trance state while on their tour of duty. Normal courtesies were suspended for them; with their work began the job of survival. One thousand women, five percent of the ship's company, inspected night and day for corrosion. Seawater is a vicious solvent and the ship had to live in it; fanaticism was the answer.

His stateroom above the rudder waited; the hatchway to it glowed a hundred feet down the deck with the light of a wasteful lantern. After harvest, when the tanks brimmed with oil, one type acted as though the tanks would brim forever. The captain wearily walked around and over a dozen stay ropes to the hatchway and blew out the lamp. Before descending he took a mechanical look around the deck; all was well-

Except for a patch of paleness at the fantail.

"Will this day never end?" he asked the darkened lantern and went to the fantail. The patch was a little girl in a nightdress wandering aimlessly over the deck, her thumb in her mouth. She seemed to be about two years old and was more than half asleep. She could have gone over the railing in a moment; a small wail, a small splash-

He picked her up like a feather. "Who's your daddy, princess?" he asked.

"Dunno," she grinned. The devil she didn't! It was too dark to read her ID necklace and he was too tired to light the lantern. He trudged down the deck to the crew of inspectors. He said to their chief: "One of you get this child back to her parents' cabin," and held her out.

The chief was indignant. "Sir, we are on watch!"

"File a grievance with the Commodore if you wish. Take the child."

One of the rounder women did, and made cooing noises while her chief glared. "Bye-bye, princess," the captain said. "You ought to be keel-hauled for this, but I'll give you another chance."

"Bye-bye," the little girl said, waving, and the captain went yawning down the hatchway to bed.

His stateroom was luxurious by the austere standards of the ship. It was equal to six of the standard nine-by-nine cabins in volume, or to three of the double cabins for couples. These however had something he did not. Officers above the rank of lieutenant were celibate. Experience had shown that this was the only answer to nepotism, and nepotism was a luxury which no convoy could afford. It meant, sooner or later, inefficient command. Inefficient command meant, sooner or later, death.

Because he thought he would not sleep, he did not.

Marriage. Parenthood. What a strange business it must bet To share a bed with a wife, a cabin with two children decently behind their screen for sixteen years… what did one talk about in bed? His last mistress had hardly talked at all, except with her eyes. When these showed signs that was falling in love with him, Heaven knew why, he broke with her as quietly as possible and since then irritably rejected the thought of acquiring a successor. That had been two years ago when he was thirty-eight and already beginning to feel like a cabin-crawler fit only to be dropped over the fantail into the wake. An old lecher, a roue, a *user* of women. Of course she had talked a little; what did they have in common to talk about? With a wife ripening beside him, with children to share, it would have been different. That pale, tall, quiet girl deserved better than he could give; he hoped she was decently married now in a double cabin, perhaps already heavy with the first of her two children.

A whistle squeaked above his head; somebody was blowing into one of the dozen speaking tubes clustered against the bulkhead. Then a push-wire popped open the steel lid of Tube Seven, Signals, He resignedly picked up the flexible reply tube and said into it: "This is the captain. Go ahead."

"Grenville signals Force Three squall approaching from astern, sir."

"Force Three squall from astern. Turn out the fore-starboard watch. Have them reef sail to Condition Charlie."

"Fore-starboard watch, reef sail to Condition Charlie, aye-aye."

"Execute."

"Aye-aye, sir." The lid of Tube Seven, Signals, popped shut. At once he heard the distant, penetrating shrill of the pipe, the faint vibration as one-sixth of the deck crew began to stir in their cabins, awaken, hit the deck bleary-eyed, begin,to trample through the corridors and up the hatchways to the deck. He got up himself and pulled on clothes, yawning. Reefing from Condition Fox to Condition Charlie was no serious matter, not even in the dark, and Walters on watch was a good officer. But he'd better have a look.

Being flush-decked, the ship offered him no bridge. He conned her from the "first top" of Friday mast, the rearmost of her five. The

"first top" was a glorified crow's nest fifty feet up the steel basketwork of that great tower; it afforded him a view of all masts and spars in one glance.

He climbed to his command post too far gone for fatigue. A full moon now lit the scene, good. That much less chance of a green topman stepping on a ratline that would prove to be a shadow and hurtling two hundred feet to the deck. That much more snap in the reefing; that much sooner it would be over. Suddenly he was sure he would be able to sleep if he ever got back to bed again.

He turned for a look at the bronze, moonlit heaps of the great net on the fantail. Within a week it would be cleaned and oiled, within two weeks stowed below in the cable tier, safe from wind and weather.

The regiments of the fore-starboard watch swarmed up the masts from Monday to Friday, swarmed out along the spars as bosun's whistles squealed out the drill-

The squall struck.

Wind screamed and tore at him; the captain flung his arms around a stanchion. Rain pounded down upon his head and the ship reeled in a vast, slow curtsey, port to starboard. Behind him there was a metal sound as the bronze net shifted inches sideways, back.

The sudden clouds had blotted out the moon; he could not see the men who swarmed along the yards but with sudden terrible clarity he felt through the soles of his feet what they were doing. They were clawing their way through the sail-reefing drill, blinded and deafened by sleety rain and wind. They were out of phase by now; they were no longer trying to shorten sail equally on each mast; they were trying to get the thing done and descend. The wind screamed in his face as he turned and clung. Now they were ahead of the job on Monday and Tuesday masts, behind the job on Thursday and Friday masts.

So the ship was going to pitch. The wind would catch it unequally and it would kneel in prayer, and cutwater plunging with a great, deep stately obeisance down into the fathoms of ocean, the stern soaring slowly, ponderously, into the air until the topmost rudder-trunnion streamed *a* hundred-foot cascade into the boiling froth of the wake.

That was half the pitch. It happened, and the captain clung, groaning aloud. He heard above the screaming wind loose gear rattling on the deck, clashing forward in an avalanche. He heard a heavy clink at the stern and bit his lower lip until it ran with blood that the tearing cold rain flooded from his chin.

The pitch reached its maximum and the second half began, after interminable moments when she seemed frozen at a five-degree angle forever. The cutwater rose, rose, rose, the bowsprit blocked out

horizon stars, the loose gear countercharged astern in a crushing tide of bales, windlass cranks, water-breakers, stilling coils, steel sun reflectors, lashing tails of bronze rigging-

Into the heaped piles of the net, straining at its retainers on the two great bollards that took root in the keel itself four hundred feet below. The energy of the pitch hurled the belly of the net open crashing, into the sea. The bollards held for a moment.

A retainer cable screamed and snapped like a man's back, and then the second cable broke. The roaring slither of the bronze links thundering over the fantail shook the ship.

The squall ended as it had come; the clouds scudded on and the moon bared itself, to shine on a deck scrubbed clean. The net was lost.

Captain Salter looked down the fifty feet from the rim of the crow's nest and thought: I should jump. It would be quicker that way.

But he did not. He slowly began to climb down the ladder to the bare deck.

Having no electrical equipment, the ship was necessarily a representative republic rather than a democracy. Twenty thousand people can discuss and decide only with the aid of microphones, loudspeakers, and rapid calculators to balance the ayes and noes. With lungpower the only means of communication and an abacus in a clerk's hands the only tallying device, certainly no more than fifty people can talk together and make sense, and there are pessimists who say the number is closer to five than fifty. The Ship's Council that met at dawn on the fantail numbered fifty.

It was a beautiful dawn; it lifted the heart to see salmon sky, iridescent sea, spread white sails of the Convoy ranged in a great slanting line across sixty miles of oceanic blue.

It was the kind of dawn for which one lived-a full catch salted down, the water-butts filled, the evaporators trickling from their thousand tubes nine gallons each sunrise to sunset, wind enough for easy steerageway, and a pretty spread of sail. These were the rewards. One hundred and forty-one years ago Grenville's Convoy had been launched at Newport News, Virginia, to claim them.

Oh, the high adventure of the launching! The men and women who had gone,aboard thought themselves heroes, conquerors of nature, self-sacrificers for the glory of nemet; But nemet meant only Northeastern Metropolitan Area, one dense warren that stretched from Boston to Newport, built up and dug down, sprawling westward, gulping Pittsburgh -without a pause, beginning to peter out past Cincinnati.

The first generation asea clung and sighed for the culture of nemet, consoled itself with its patriotic sacrifice; any relief was better than none at all, and Grenville's Convoy had drained one and a

quarter million population from the huddle. They were immigrants into the sea; like all immigrants they longed for the Old Country. Then the second generation. Like all second generations they had no patience with the old people or their tales. *This* was real, this sea, this gale, this rope! Then the third generation. Like all third generations it felt a sudden desperate hollowness and lack of identity. What was real? Who are we? What is nemet which we have lost? But by then grandfather and grandmother could only mumble vaguely; the culture heritage was gone, squandered in three generations, spent forever. As always, the fourth generation did not care.

And those who sat in counsel on the fantail were members of the fifth and sixth generations. They knew all there was to know about life. Life was the hull and masts, the sail and rigging, the net and the evaporators. Nothing more. *Nothing less.* Without masts there was no life. Nor was there life without the net.

The Ship's Council did. not command; command was reserved to the captain and his officers. The Council governed, and on occasion tried criminal cases. During the black Winter Without Harvest eighty years before it had decreed euthanasia for all persons over sixty-three years of age and for one out of twenty of the other adults aboard. It had rendered bloody judgment on the ringleaders of Peale's Mutiny. It had sent them into the wake and Peale himself had been bowsprit-ted, given the maritime equivalent of crucifixion. Since then no megalomaniacs had decided to make life interesting for their shipmates, so Peale's long agony had served its purpose.

The fifty of them represented every department of the ship and every age group. If there was wisdom aboard, it was concentrated there on the fantail. But there was little to say.

The eldest of them, Retired Sailmaker Hodgins, presided. Venerably bearded, still strong of voice, he told them:

"Shipmates, our accident has come. We are dead men. Decency demands that we do not spin out the struggle and sink into-unlawful eatings. Reason tells us that we cannot survive. What I propose is an honorable voluntary death for us all, and the legacy sf our ship's fabric to be divided among the remainder of the Convoy at the discretion of the Commodore."

He had little hope of his old man's viewpoint prevailing. The Chief Inspector rose at once. She had only three words to say: *"Not my children."*

Women's heads nodded grimly and men's with resignation. Decency and duty and common sense were all very well until you ran up against that steel bulkhead. *Not my children.*

A brilliant young chaplain asked: "Has the question ever been raised as to whether a collection among the fleet might not provide

cordage enough to improvise a net?"

Captain Salter should have answered that, but he, murderer of the twenty thousand souls in his care, could not speak. He nodded jerkily at his signals officer.

Lieutenant Zwingli temporized by taking out his signals slate and pretending to refresh his memory. He said: "At 0035 today a lamp signal was made to *Grenville* advising that our net was lost. *Grenville* replied as follows: 'Effective now, your ship no longer part of Convoy. Have no recommendations. Personal sympathy and regrets. Signed, Commodore.'"

Captain Salter found his voice. "I've sent a couple of other messages to *Grenville* and to our neighboring vessels. They do not reply. This is as it should be. We are no longer part of the Convoy. Through our own-lapse-we have become a drag on the Convoy. We cannot look to it for help. I have no word of condemnation for anybody. This is how life is."

And then a council member spoke whom Captain Salter knew in another role. It was Jewel Flyte, the tall, pale girl who had been his mistress two years ago. She must be serving as an alternate, he thought, looking at her with new eyes. He did not know she was even that; he had avoided her since then. And no, she was not married; she wore no ring. And neither was her hair drawn back in the semiofficial style of the semiofficial voluntary celibates, the superpatriots (or simply sex-shy people, or dislikers of children) who surrendered their right to reproduce for the good of the ship (or their own convenience). She was simply a girl in the uniform of a-a what? He had to think hard before he could match the badge over her breast to a department. She was Ship's Archivist with her crossed key and quill, an obscure clerk and shelf-duster under-far under!-the Chief of Yeomen Writers. She must have been elected alternate by the Yeomen in a spasm of sympathy for her blind-alley career.

"My job," she said in her calm, steady voice, "is chiefly to search for precedents in the Log when unusual events must be recorded and nobody recollects offhand the form in which they should be recorded. It is one of those provoking jobs which must be done by someone but which cannot absorb the full time of a person. I have therefore had many free hours of actual working time. I have also remained unmarried and am not inclined to sports or games. I tell you this so you may believe me when I say that during the past two years I have read the Ship's Log in its entirety."

There was a little buzz. Truly an astonishing, and an astonishingly pointless, thing to do! Wind and weather, storms and calms, messages and meetings and censuses, crimes, trials, and punishments of a hundred and forty-one years; what a bore!

"Something I read," she went on, "may have some bearing on our dilemma." She took a slate from her pocket and read: "Extract from the Log dated June 30, Convoy Year 72. "The Shakespeare-Joyce-Melville Party returned after dark in the gig. They had not accomplished any part of their mission. Six were dead of wounds; all bodies were recovered. The remaining six were mentally shaken but responded to our last atar-actics. They spoke of a new religion ashore and its consequences on population. I am persuaded that we seabornes can no longer relate to the continentals. The clandestine shore trips will cease.' The entry is signed 'Scolley, Captain.'"

A man named Scolley smiled for a brief proud moment. His ancestor! And then like the others he waited for the extract to make sense. Like the others he found that it would not do so,

Captain Salter wanted to speak and wondered how to address her. She had been "Jewel" and they all knew it; could he call her "Yeoman Flyte" without looking like, being, a fool? Well, if he was fool enough to lose his net he was fool enough to be formal with an ex-mistress. "Yeoman Flyte," he said, "where does the extract leave us?"

In her calm voice she told them all: "Penetrating the few obscure words, it appears to mean that until Convoy Year 72 the Charter was regularly violated, with the connivance of successive captains. I suggest that we consider violating it once more, to survive."

The Charter, It was a sort of ground swell of their ethical life, learned early, paid homage every Sunday when they were rigged for church. It was inscribed in phosphor-bronze plates on Monday mast of every ship at sea, and the wording was always the same.

IN *RETURN FOR THE SEA AND ITS BOUNTY WE RENOUNCE AND ABJURE FOR OURSELVES AND OUR DESCENDANTS THE LAND FROM WHICH WE SPRUNG: FOR THE COMMON GOOD OF WE SET SAIL FOREVER.*

At least half of them were unconsciously murmuring the words.

Retired Sailmaker Hodgins rose, shaking, "Blasphemy!" he said. "The woman should be bowspritted!"

The chaplain said thoughtfully: "I know a little more about what constitutes blasphemy than Sailmaker Hodgins, I believe, and assure you that he is mistaken. It is a superstitious error to believe that there is any religious sanction for the Charter. It is no ordinance of God but a contract between men."

"It is a Revelation!" Hodgins shouted. "A Revelation! It is the newest testament! It is God's finger pointing the way to the clean hard life at sea, away from the grubbing and filth, from the overbreeding and the sickness!"

That was a common view.

"What about my children?" demanded the Chief Inspector. "Does

God want them to starve or be-be-" She could not finish the question, but the last unspoken word of it rang in all their minds.

Eaten.

Aboard some ships with an accidental preponderance of the elderly, aboard other ships where some blazing personality generations back had raised the Charter to a powerful cult, suicide might have been voted. Aboard other ships where nothing extraordinary had happened in six generations, where things had been easy and the knack and tradition of hard decision making had been lost, there might have been confusion and inaction and the inevitable degeneration into savagery. Aboard Salter's ship the Council voted to send a small party ashore to investigate. They used every imaginable euphemism to describe the action, took six hours to make up their minds, and sat at last on the fantail cringing a little, as if waiting for a thunderbolt.

The shore party would consist of Salter, Captain; Plyte, Archivist; Pemberton, Junior Chaplain; Graves, Chief Inspector.

Salter climbed to his conning top on Friday mast, consulted a chart from the archives, and gave the order through speaking tube to the tiller gang: "Change course red four degrees."

The repeat came back incredulously.

"Execute," he said. The ship creaked as eighty men heaved the tiller; imperceptibly at first the wake began to curve behind them.

Ship Starboard 30 departed from its ancient station; across a mile of sea the bosun's whistles could be heard from Starboard 31 as she put on sail to close the gap.

"They might have signaled something." Salter thought, dropping his glasses at last on his chest. But the masthead of Starboard 31 remained bare of all but its commission pennant.

He whistled up his signals officer and pointed to their own pennant. "Take that thing down," he said hoarsely, and went below to his cabin.

The new course would find them at last riding off a place the map described as New York City.

Salter issued what he expected would be his last commands to Lieutenant Zwingli; the whaleboat was waiting in its davits; the other three were in it.

"You'll keep your station here as well as you're able," said the captain. "If we live, we'll be back in a couple of months. Should we not return, that would be a potent argument against beaching the ship and attempting to live off the continent-but it will be your problem then and not mine."

They exchanged salutes. Salter sprang into the whaleboat, signaled the deck hands standing by at the ropes, and the long

creaking descent began.

Salter, Captain, age forty; unmarried *ex offlcio;* parents Clayton Salter, master instrument maintenanceman, and Eva Romano, chief dietician; selected from dame school age ten for A Track training; seamanship school eertifieate at age sixteen, navigation certificate at age twenty, First Lieutenants School age twenty-four, commissioned ensign age twenty-four, lieutenant at thirty, commander at thirty-two, commissioned captain and succeeded to command of Ship Starboard 30 the same year.

Flyte, Archivist, age twenty-five; unmarried; parents Jo-sepy Flyte, entertainer, and Jessie Waggoner, entertainer; completed dame school age fourteen, B Track training; Yeoman's School certificate at age sixteen, Advanced Yeoman's School certificate at age eighteen; efficiency rating, 3.5.

Pemberton, Chaplain, age thirty; married to Riva Shields, nurse; no children by choice; parents Will Pemberton, master distiller-watertender, and Agnea Hunt, felter-machinist's mate; completed dame school age twelve, B Track training; Divinity School Certificate at age twenty; midstarboard watch curate, later fore-starboard chaplain.

Graves, Chief Inspector, age thirty-four; married to George Omany, blacksmith third class; two children; completed dame school age fifteen; Inspectors School Certificate at age sixteen; inspector third class, second class, first class, master inspector, then chief; efficiency rating, 4.0; three commendations.

Versus the Continent of North America.

They all rowed for an hour; then a shoreward breeze came up and Salter stepped the mast. "Ship your oars," he said and then wished he dared countermand the order. Now they would have time to think of what they were doing.

The very water they sailed was different in color from the deep water they knew, and different in its way of moving. The life in it-

"Great God!" Mrs. Graves cried, pointing astern, It was a huge fish, half the size of their boat. It surfaced lazily and slipped beneath the water in an uninterrupted arc, They had seen steel-gray skin, not scales, and a great slit of a mouth.

Slater said, shaken: "Unbelievable. Still, I suppose in the unfished offshore waters a few of the large forms survive. And the intermediate sizes to feed them- And foot-long smaller sizes to feed *them,* and-"

Was it mere arrogant presumption that Man had permanently changed the life of the sea?

The afternoon sun slanted down and the tip of Monday mast sank below the horizon's curve astern; the breeze that filled their sail bowled them toward a mist which wrapped vague concretions they

feared to study too closely. A shadowed figure huge as a mast with one arm upraised; behind it blocks and blocks of something solid.

"This is the end of the sea," said the captain.

Mrs. Graves said what- she would have said if a silly underinspector had reported to her blue rust on steel: "Nonsense!" Then, stammering: "I beg your pardon, captain. Of course you are correct."

"But it sounded strange," Chaplain Pemberton said helpfully. "I wonder where they all are?"

Jewel Flyte said in her quiet way: "We should have passed over the discharge from waste tubes before now. They used to pump their waste through tubes under the sea and discharge it several miles out. It colored the water and it stank. During the first voyaging years the captains knew it was time to tack away from land by the color and the bad smell."

"They must have improved their disposal system by now," Salter said. "It's been centuries."

His last word hung in the air.

The chaplain studied the mist from the bow. It was impossible to deny it; the huge thing was an Idol. Rising from the bay of a great city, an Idol, and a female one-the worst kind! "I thought they had them only in High Places," he muttered, discouraged.

Jewel Flyte understood. "I think it has no religious significance," she said. "It's a sort of-huge piece of scrimshaw."

Mrs. Graves studied the vast thing and saw in her mind the glyphic arts as practiced at sea: compacted kelp shaved and whittled into little heirloom boxes, miniature portrait busts of children. She decided that Yeoman Flyte had a dangerously wild imagination. Scrimshaw? Tall as a mastF

There should be some commerce, thought the captain. Boats going to and fro. The Place ahead was plainly an island, plainly inhabited; goods and people should be going to it and coming from it. Gigs and cutters and whaleboats should be plying this bay and those two rivers; at that narrow bit they should be lined up impatiently waiting, tacking and riding under sea anchors and furled sails. There was nothing but a few white birds that shrilled nervously at their solitary boat.

The blocky concretions were emerging from the haze; they were sunset-red cubes with regular black eyes dotting them; they were huge dice laid down side by side by side, each as large as a ship, each therefore capable of holding twenty thousand persons.

Where were they all?

The breeze and the tide drove them swiftly through the neck of water where a hundred boats should be waiting, "Furl the sail," said Salter. "Out oars,"

With no sounds but the whisper of the oarlocks, the cries of the white birds, and the slapping of the wavelets, they rowed under the shadow of the great red dice to a dock, one of a hundred teeth projecting from the island's rim.

"Easy the starboard oars," said Salter; "handsomely the port oars. Up oars. Chaplain, the boat hook," He had brought them to a steel ladder; Mrs. Graves gasped at the red rust thick on it. Salter tied the painter to a corroded brass ring. "Come along," he said, and began to climb.

When the four of them stood on the iron-plated dock Pem-berton, naturally, prayed. Mrs. Graves followed the prayer with half her attention or lees; the rest she could riot divert from the shocking slovenliness of the prospect-rust, dust, litter, neglect. What went on in the mind of Jewel Flyte her calm face did not betray. And the captain scanned those black windows a hundred yards inboard-no; inland!-and waited and wondered.

They began to walk to them at last, Salter leading. The sensation under foot was strange and dead, tiring to the arches and the thighs.

The huge red dice were not as insane close-up as they had appeared from the distance. They were thousand-foot cubes of brick, the stuff that lined ovens. They were set back within squares of green, cracked surfacing which Jewel Flyte named "cement" or "concrete" from some queer corner of her erudition.

There was an entrance, and written over it: the herbert brownell jr. memorial houses. A bronze plaque shot a pang of guilt through them all as they thought of The Compact, but its words were different and ignoble.

NOTICE TO ALL TENANTS

A project Apartment is a Privilege and not a Right. Daily Inspection is the Cornerstone of the Project. At-tendance at Least Once a Week at the Church or Synagogue of your Choice is Required for Families wishing to remain in Good Standing; Proof of Attendance must be presented on Demand. Possession of Tobacco or Alcohol will be considered Prime Facie Evidence of Un-desirability. Excessive Water Use, Excessive Energy Use and Food Waste will be Grounds for Desirability Review. The speaking of Languages other than American by persons over the Age of Six will be considered Prima Facie Evidence of Nonassimilability, though this shall not be construed to prohibit Religious Ritual in Languages other than American.

Below it stood another plaque in paler bronze, an afterthought:

None of the foregoing shall be construed to condone the Practice of Depravity under the Guise of Religion by Whatever Name, and all Tenants are warned that any Failure to report the Practice of Depravity will result in summary Eviction and Denunciation.

Around this later plaque some hand had painted with crude strokes of a tar brush a sort of anatomical frame at which they stared in wondering disgust.

At last Pemberton said: "They were a devout people." Nobody noticed the past tense, it sounded so right.

"Very sensible," said Mrs. Graves. "No nonsense about them."

Captain Salter privately disagreed. A ship run with such dour coercion would founder in a month; could land people be that much different?

Jewel Flyte said nothing, but her eyes were wet. Perhaps she was thinking of scared little human rats dodging and twisting through the inhuman maze of great fears and minute rewards.

"After- all," said Mrs. Graves, "it's nothing but a Cabin Tier. We have cabins and so had they. Captain, might we have a look?"

"This *is a* reconnaissance," Salter shrugged. They went into a littered lobby and easily recognized an elevator which had long ago ceased to operate; there were many hand-run dumbwaiters at sea.

A gust of air flapped a sheet of printed paper across the chaplain's ankles; he.stooped to pick it up with a kind of instinctive outrage- leaving paper unsecured, perhaps to blow overboard and be lost forever to the ship's economy! Then he flushed at his silliness. "So much to unlearn," he said, and spread the paper to look at it. A moment later he crumpled it in a ball and hurled it from him as hard and as far as he could and wiped his hands with loathing on his jacket. His face was utterly shocked.

The others stared. It was Mrs. Graves who went for the paper.

"Don't look at it," said the chaplain.

"I think she'd better," Saiter said.

The maintenancewoman spread the paper, studied it, and said: "Just some nonsense. Captain, what do you make of it?"

It was a large page torn from a book, and on it were simply polychrome drawings and some lines of verse in the style of a child's first reader. Saiter repressed a shocked guffaw. The picture was of a little boy and a little girl quaintly dressed, locked in murderous combat, using teeth and nails. *"Jack and Jill went up the hill"* said the text, *"to fetch a pail of water. She threw Jack down and broke his crown; it was a lovely slaughter."*

Jewel Flyte took the page from his hands. All she said was, after a long pause: "I suppose they couldn't start them too young," She

dropped the page and she too wiped her hands.

"Come along," the captain said. "We'll try the stairs."

The stairs were dust, rat dung, cobwebs, and two human skeletons. Murderous, knuckledusters fitted loosely the bones of the two right hands, Saiter hardened himself to pick up one of the weapons but could not bring himself to try it on. Jewel Flyte said apologetically: "Please be careful, captain. It might be poisoned. That seems to be the way they were."

Saiter froze. By God, but the girl was right! Delicately, handling the spiked steel thing by its edges, he held it up. Yes; stains-it *would* be stained, and perhaps with poison also. He dropped it into the thoracic of one skeleton said: "Come on." They climbed in quest of a dusty light from above; it was a doorway onto a corridor of many doors. There was evidence of fire and violence. A barricade of queer pudgy chairs and divans had been built to block the corridor and had been breached. Behind it were sprawled three more heaps of bones.

"They have no heads," the chaplain said hoarsely. "Captain Salter, this is not a place for human beings. We must go back to the ship, even if it means honorable death. This is not a place for human beings."

'Thank you, chaplain," said Salter. "You've cast your vote. Is anybody with you?"

"Kill youfown children, chaplain," said Mrs. Graves. "Not mine."

Jewel Flyte gave the chaplain a sympathetic shrug and said: "No."

One door stood open, its lock shattered by blows of a fire axe. Salter said: "We'll try that one." They entered into the home of an ordinary middle-class death-worshiping family as it had been a century ago, in the one hundred and thirty-first year of Merdeka the Chosen.

Merdeka the Chosen, the All-Foreigner, the Ur-Alien, had never intended any of it. He began as a retail mail-order vendor of movie and television stills, eight-by-ten glossies for the fan trade. It was a hard dollar; you had to keep an immense stock to cater to a tottery Mae Bush admirer, to the pony-tailed screamer over flip Torn, and to everybody in between. He would have no truck with pinups. "Dirty, lascivious pictures!" he snarled when broadly hinting letters arrived. "Filth! Men and women kissing, ogling, pawing each other! Orgies! Bah!" Merdeka kept a neutered dog, a spayed cat, and a crumpled, uncomplaining housekeeper who was technically his wife. He was poor; he was very poor. Yet he never neglected his charitable duties, contributing every year to the Planned Parenthood Federation and the Midtown Hysterectomy Clinic.

They knew him in the Third Avenue saloons where he talked every night, arguing with Irishmen, sometimes getting asked outside

to be knocked down. He let them knock him down and sneered from the pavement, Was *this* their argument? *He* could argue. He spewed facts and figures and cliches in unanswerable profusion. Hell, man, the Russians'll have a bomb base on the moon in two years and in two years the army and the air force will still be beating each other over the head with pigs' bladders. Just a minute, let me tell you; the goddammycin's making idiots of us all; do you know of any children born in the past two years that're healthy? And: 'flu be go to hell; it's our own germ warfare from Camp

Crowder right outside Baltimore that got out of handr and it happened the week of the twenty-fourth. And: the human animal's obsolete; they've proved at M.I.T., Steinwitz and Kohlmann proved that the human animal cannot survive the current radiation levels. And: enjoy your lung cancer, friend; for every automobile and its stinking exhaust there will be two-point-seven-oh-three cases of lung cancer, and we've got to have our automobiles, don't we? And: delinquency my foot; they're insane and it's got to the point where the economy cannot support mass insanity; they've got to be castrated; it's the only way. And: they should dig up the body of Metehnikoff and throw it to the dogs; he's the degenerate who invented venereal prophylaxis and since then vice without punishment has run hogwild through the world; what we need on the streets is a few of those old-time locomotor ataxia cases limping and drooling to show the kids where vice leads.

He didn't know where he came from. The delicate New York way of establishing origins is to ask: "Merdeka, hah? What kind of a name is that now?" And to this he would reply that he wasn't a lying Englishman or a loudmouthed Irishman or a perverted Frenchman or a chiseling Jew or a barbarian Russian or a toadying German or a thick-headed Scan-dihoovian, and if his listener didn't like it, what did he'have to say in reply?

He was from an orphanage, and the legend at the orphanage was that a policeman had found him, two hours old, in a garbage can coincident with the death by hemorrhage on a trolley car of a luetic young woman whose name appeared to be Merdeka and who had certainly been recently delivered of a child. No other facts were established, but for generation after generation of orphanage inmates there was great solace in having one of their number who indisputably had got off to a worse start than they.

A watershed of his career occurred when he noticed that he was, for the seventh time that year, reordering prints of scenes from Mr. Howard Hughes' production *The Outlaw*. These were not the off-the-bust stills of Miss Jane Russell, surprisingly, but were group scenes of Miss Russell suspended by her wrists and about to be whipped.

Merdeka studied the scene, growled "Give it to the bitch!" and doubled the order. It sold out. He canvassed his files for other whipping and torture stills from *Desert Song-type* movies, made up a special assortment, and it sold out within a week. Then he knew.

The man and the opportunity had come together, for perhaps the fiftieth time *in* history. He hired a model and took the first specially posed pictures himself. They showed her cringing from a whip, tied to a chair with a clothesline, and herself brandishing the whip.

Within two months Merdeka had cleared six thousand dollars and he put every cent of it back into more photographs and direct-mail advertising. Within a year he was big enough to attract the postoffice obscenity people. He went to Washington and screamed in their faces: "My stuff isn't obscene and I'll sue you if you bother me, you stinking bureaucrats! You show me one breast, you show me one behind, you show me one human being touching another in my pictures! You can't and you know you can't! I don't believe in sex and I don't push sex, so you leave me the hell alone! Life is pain and suffering and being scared so people like to look at my pictures; my pictures are about *them,* the scared little jerks! You're just a bunch of goddam perverts if you think there's anything dirty about my pictures!"

He had them there; Merdeka's girls always wore at least full panties, bras, and stockings; he had them there. The postoffice obscenity people were vaguely positive that there was *something* wrong with pictures of beautiful women tied down to be whipped or burned with hot irons, but what?

The next year they tried to get him on his income tax; those deductions for the Planned Parenthood Federation and the Midtown Hysterectomy Clinic were preposterous, but he proved them with canceled checks to the last nickel. "In fact," he indignantly told them, "I spend a lot of time at the Clinic and sometimes they let me watch the operations. *That's* how highly they think of me at the Clinic."

The next year he started *DEATH: The Weekly Picture Magazine* with the aid of a half-dozen bright young grads from the New Harvard School of Communicationeering. As *DEATH'S* Communicator in Chief (only yesterday he would have been its Publisher, and only fifty years before he would have been its Editor) he slumped biliously in a pigskin-paneled office, peering suspiciously at the closed-circuit TV screen which had a hundred wired eyes throughout *DEATH'S* offices, sometimes growling over the voice circuit:

"You! What's your name? Boland? You're through, Boland. Pick up your time at the paymaster." For any reason; for no reason. He was a living legend in his narrow-lapel charcoal flannel *suit* and stringy bullfighter neckties; the bright yoang men in their Victorian Revival frock coats and pearl-pinned cravats wondered at his-not "obstinacy";

not when there might be a mike even in the corner saloon; say, his "time-lessness,"

The bright young men became bright young-old men, and the magazine which had been conceived as a vehicle for deadheading house ads of the mail-order picture business went into the black. On the cover of every issue *of DEATH* was a pictured execution-of-the-week, and no price for one was ever too high. A fifty-thousand-dollar donation to a mosqae had purchased the right to secretly snap the Bread Ordeal by which perished a Yemenite suspected of tapping an oil pipeline. An interminable illustrated "History of Flagellation" was a staple of the reading matter, and the "Medical Section" (in color) was tremendously popular. So too was the weekly "Traffic Report."

When the last of the Compact Ships was launched into the Pacific the event made *DEATH* because of the several fatal accidents which accompanied the launching; otherwise Mer-deka ignored the ships. It was strange that he who had unor-thodoxies about everything had no opinion at all about the Compact Ships and their crews. Perhaps it was that he really knew he was the greatest man-slayer who ever lived, and even so could not face commanding total extinction, including that of the seaborne leaven. The more articulate Sokei-an, who in the name of Rinzei Zen Buddhism was at that time depopulating the immense area dominated by China, made no bones about it: "Even I in my Hate may err; let the celestial vessels be." The opinions of Dr, Spat. European member of the trio, are forever beyond recovery due to his advocacy of the "one-generation" plan.

With advancing years Merdeka's wits cooled and gelled. There came a time when he needed a theory and was forced to stab the button of the intercom for his young-old Managing Communicator and growl at him: "Give me a theory!" And the M.C. reeled out: "The structural intermesh of *DEATH: The Weekly Picture Magazine* with Western culture is no random point-event but a rising world-line. Predecessor attitudes such as the Hollywood dogma 'No breasts-blood!' and the tabloid press's exploitation of violence were floundering and empirical. It was Merdeka who sigma-ized the convergent traits of our times and asymptotically eongruentizes with them publicationwise. Wrestling and the roller derby as blood sports, the routinization of femicide in the detective tale, the standardization at one million per year of traffic fatalities, the wholesome interest of our youth in gang rumbles, all point toward the Age of Hate and Death. The ethic of Love and Life is obsolescent, and who is to say that Man is the loser thereby? Life and death compete in the marketplace of ideas for the Mind of Man-"

Merdeka growled something and snapped off the set. Mer-deka leaned back. Two billion circulation this week, and the auto ads were

beginning to Tip. Last year only the suggestion of a dropped shopping basket as the Dynajetic 16 roared across the page, this year a hand, limp on the pictured pavement. Next year, blood. In February the Sylphella Salon chain ads had Tipped, with a crash: "-and the free optional judo course for slenderized Madame or Mademoiselle: learn how to kill a man with your lovely bare hands, with or without mess as desired." Applications had risen twenty-eight percent. By *God* there was a structural intermesh for you!

It was too slow; it was still too slow. He picked up a direct-line phone and screamed into it: "Too slow? What am I paying you people for? The world is wallowing in filth! Movies are dirtier than ever! Kissing! Pawing! Ogling! Men and women together-obscene! Clean up the magazine covers! Clean up the ads!"

The person at the other end of the direct line was Executive Secretary of the Society for Purity in Communications; Merdeka had no need to announce himself to him, for Merdeka was S.P.C.'s principal underwriter. He began to rattle off at once: "We've got the Mothers' March on Washington this week, sir, and a mass dummy pornographic mailing addressed to every Middle Atlantic State female between the ages of six and twelve next week, sir; I believe this one-two punch will put the Federal Censorship Commission over the goal line before recess-"

Merdeka hung up. "Lewd communications," he snarled. "Breeding, breeding, breeding, like maggots in a garbage can. Burning and breeding. But we will make them clean."

He did not need a Theory to tell him that he could not take away Love without providing a substitute.

He walked down Sixth Avenue that night, for the first time in years. In this saloon he had argued; outside that saloon he had been punched in the nose. Well, he was winning the argument, all the arguments. A mother and daughter walked past uneasily, eyes on the shadows. The mother was dressed Square; she wore a sheath dress that showed her neck and clavicles at the top and her legs from mid-shin at the bottom. In some parts of town she'd be spat on, but the daughter, never. The girl was Hip; she was covered from neck to ankles by a loose, unbelted sack-culotte. Her mother's hair floated, hers was hidden by a cloche. Nevertheless the both of them were abruptly yanked into one of those shadows they prudently had eyed, for they had not watched the well-lit sidewalk for waiting nooses.

The familiar sounds of a Working Over came from the shadows as Merdeka strolled on, "I mean cool!" an ecstatic young voice-boy's, girl's, what did it matter?-breathed between crunching blows.

That year the Federal Censorship Commission was cre-ated$_t$ and the next year the old Internment Camps in the southwest were tilled

to capacity by violators, and the next year the First Church of Merdeka was founded in Chicago. Merdeka died of an aortal aneurism five years after that, but his soul went marching *fat.*

"The Family That Prays Together Slays Together," was. the wall motto in the apartment, but there was no evidence that the implied injunction had been observed. The bedroom of the mother and the father was secured by steel doors and terrific-locks, but Junior had got them all the same; somehow he had burned through the steel.

"Thermite?" Jewel Flyte asked herself softly, trying to remember. First he had got the father, quickly and quietly with a wire garotte as he lay sleeping, so as not to alarm his mother. To her he had taken her own spiked knobkerry and got in a mortal stroke, but not before she reached under her pillow for a pistol, Junior's teenage bones testified by their arrangement to the violence of that leaden blow.

Incredulously they looked at the family library of comic books, published in a series called "The Merdekan Five-Foot Shelf of Classics." Jewel Flyte leafed slowly through one called *Moby Dick* and found that it consisted of a near-braining in a bedroom, agonizingly depicted deaths at sea, and for a climax the eating alive of one Ahab by a monster. "Surely there must have been more," she whispered.

Chaplain Pemberton put down *Hamlet* quickly and held onto a wall. He was quite sure that he felt his sanity slipping palpably away, that he would gibber in a moment. He prayed and after a while *felt better; he* rigorously *kept* his eyes away from the Classics after that.

Mrs. Graves snorted at the waste of it all, at the picture of the ugly, pop-eyed, busted-nose man labeled merdeka THE chosen, the pure, the purifier. There were two tables, which was a Ally. Who needed two tables? Then she looked closer, saw that one of them was really a blood-stained flogging bench and felt slightly ill. Its nameplate said *Correctional Furniture Corp. Size 6, Ages 10-14.* She had, God knew, slapped her children more than once when they deviated from her standard of perfection, but when she saw those stains she felt a stirring of warmth for the parricidal bones in the next room.

Captain Salter said: "Let's get organized. Does anybody think there are any of them- left?"

"I think not," said Mrs. Graves. "People like that can't survive. The world must have been swept clean. They, ah, killed one another but that's not the important point. This couple had one child, age ten to fourteen. This cabin of theirs seems to be built for one child. We should look at a few more cabins to learn whether a$_{v}$one-child family is-was-normal. If we find out that it was, we can suspect that they are-gone. Or nearly so." She coined a happy phrase: "By race suicide."

"The arithmetic of it is quite plausible," Salter said. "If no factors work except the single-child factor, in one century of five generations

a population of two billion will have bred itself down to 125 million. In another century, the population is just under four million. In another, 122 thousand…by the thirty-second generation the last couple descended from the original two billion will breed one child, and that's the end. And there are the other factors. Besides those who do not breed, by choice"-his eyes avoided Jewel Flyte-"there are the things we have seen on the stairs, and in the corridor, and in these compartments."

"Then there's our answer," said Mrs. Graves. She smacked the obscene table with her hand, forgetting what it was. "We beach the ship and march the ship's company onto dry land. We clean up, we learn what we have to do to get along-" Her words trailed off. She shook her head. "Sorry," she said gloomily. "I'm talking nonsense."

The chaplain understood her, but he said: "The land is merely another of the many mansions. Surely they could learn!"

"It's not politically feasible," Saiter said. "Not in its present form." He thought of presenting the proposal to the Ship's Council in the shadow of the mast that bore the Compact, and twitched his head in-an involuntary negative.

"There is a formula possible," Jewel Flyte said.

The Browneils burst in on them then, all eighteen of the Brownells, They had been stalking the shore party sinse *its* landing. Nine sack-culotted women in clothes and nine men in penitential black, they streamed through the gaping door and surrounded the sea people with a ring of spears. Other factors had indeed operated, but this was not yet the thirty-second generation of extinction.

The leader of the Brownells, a male, said with satisfaction; "Just when we needed-new blood." Saiter understood that he was not speaking in genetic terms.

The females, more verbal types, said critically: "Evildoers, obviously. Displaying their limbs without shame, brazenly flaunting the rotted pillars of the temple of lust. Come from the accursed sea itself, abode of infamy, to seduce us from our decent and regular lives."

"We know what to do with the women," said the male leader. The rest took up the antiphon.

"We'll knock them down."

"And roll them on their backs."

"And pull one arm out and tie it fast."

"And pull the other arm out and tie it fast."

"And pull one limb out and tie it fast."

"And pull the other limb out and tie it fast."

"And then-"

"We'll beat them to death and Merdeka will smile."

Chaplain Pemberton stared incredulously. "You mast took into your hearts," he told them in a reasonable voice. "You must look deeper than you have, and you will find that you have been deluded. This is not the way for human beings to act. Somebody has misled you dreadfully. Let me explain-"

"Blasphemy," the leader of the females said, and put her spear expertly into the chaplain's intestines. The shock of the broad, cold blade pulsed through him and felled him. Jewel Flyte knelt beside him instantly, checking heartbeat and breathing. He was alive.

"Get up," the male leader said. "Displaying and offering yourself to such as we is useless. We are pure in heart."

A male child ran to the door. "Wagners!" he screamed 'Twenty Wagners coming up the stairs'"

His father roared at him: "Stand straight and don't mumble!" and slashed out with the butt of his spear, catching him hard in the ribs. The child grinned, but only after the pure-hearted eighteen had run to the stairs.

Then he blasted a whistle down the corridor while the sea people stared with what attention they could divert from the bleeding chaplain. Six doors popped open at the whistle and men and women emerged from them to launch spears into the backs of the Brownells clustered to defend the stairs. "Thanks, pop!" the boy kept screaming while the pure-hearted Wagners swarmed over the remnants of the pure-hearted Brownells; at last his screaming bothered one of the Wagners and the boy was himself speared.

Jewel Flyte said: "I've had enough of this. Captain, please pick the chaplain up and come along."

"They'll kill us."

"You'll have the chaplain," said Mrs. Graves. "One moment." She darted into a bedroom and came back hefting the spiked knobkerry.

"Well, perhaps," the girl said. She began undoing the long row of buttons down the front of her coveralls and shrugged out of the garment, then unfastened and stepped out of her underwear. With the clothes over her arm she walked into the corridor and to the stairs, the stupefied captain and inspector following.

To the pure-hearted Merdekans she was not Phryne winning her case; she was Evil incarnate. They screamed, broke, and ran wildly, dropping their weapons. That a human being could do such a thing was beyond their comprehension; Mer-deka alone knew what kind of monster this was that drew them strangely and horribly, in violation of all sanity. They ran as she had hoped they would; the other side of the coin was spearing even more swift and thorough than would have been accorded to her fully clothed. But they ran, gibbering with fright and covering their eyes, into apartments and corners of the corridor,

their backs turned on the awful thing.

The sea-people picked their way over the shambles at the stairway and went unopposed down the stairs and to the dock. It was a troublesome piece of work for Salter to pass the chaplain down to Mrs. Graves in the boat, but in ten minutes they had cast off, rowed out a little, and set sail to catch the land breeze generated by the differential twilight cooling of water and brick. After playing her part in stepping the mast, Jewel Flyte dressed.

"It won't always be that easy," she said when the last button was fastened. Mrs. Graves had been thinking the same thing, but had not said it to avoid the appearance of envying that superb young body.

Salter was checking the chaplain as well as he knew how. "I think he'll be all right," he said. "Surgical repair and a long rest. He hasn't lost much blood. This is a strange story we'll have to tell the Ship's Council."

Mrs. Graves said: 'They've no choice. We've lost our net and the land is there waiting for us. A few maniacs oppose us-what of it?"

Again a huge fish lazily surfaced; Salter regarded it thoughtfully. He said: "They'll propose scavenging bronze ashore and fashioning another net and going on just as if nothing had happened. And really, we could do that, you know."

Jewel Flyte said: "No, Not forever. This time it was the net, at the end of harvest. What if it were three masts in midwinter, in mid-Atlantic?"

"Or," said the captain, "the rudder-anytime. Anywhere. But can you imagine telling the Council they've got to walk off the ship onto land, take up quarters in those brick cabins, change *everything?* And fight maniacs, and learn to *farm?"*

"There must be a way," said Jewel Flyte. "Just as Merdeka, whatever it was, was a way. There were too many people, and Merdeka was the answer to too many people.

There's always an answer, Man is a land mammal in spite of brief excursions at sea. We were seed stock put aside, wait ing for the land to be cleared so we could return. Just as these offshore fish are waiting very patiently for us to step har vesting twice a year so they can return to deep water and multiply. What's the way, captain?" "

He thought hard. "We eould," he said slowly, "begin by simply sailing in close and fishing the offshore waters for big stuff. Then tie up and build a sort of bridge from the ship to the shore. We'd continue to live aboard the ship but we'd go out during daylight to try farming."

"It sounds right,"

"And keep improving the bridge, making it more and more solid, until before they notice it it's really a solid part of the ship and a solid part of the shore. It might take… mmm,., ten years?"

"Time enough for the old shellbacks to make up their minds," Mrs. Graves unexpectedly snorted.

"And we'd relax the one-to-one reproduction rule, and some young adults will simply be crowded over the bridge to live on the land-" His face suddenly fell. "And then the whole damned farce starts all over again, I suppose. I pointed out that it takes thirty-two generations bearing one child apiece to run a population of two billion into zero. Well, I should have mentioned that it takes thirty-two generations bearing four children apiece to run a population of two into two billion. Oh, what's the use, Jewel?"

She chuckled. "There was an answer last time," she said. "There will be an answer the next time."

"It won't be the same answer as Merdeka," he vowed. "We grew up a little at sea. This time we can do it with brains and not with nightmares and superstition."

"I don't know," she said. "Our ship will be the first, and then the other ships will have their accidents one by one and come and tie up and build their bridges hating every minute of it for the first two generations and then not hating it, just living it… and who will be the greatest man who ever lived?"

The captain looked horrified.

"Yes, you! Salter, the Builder of the Bridge; Tommy, do you know an old word for 'bridge-builder'? *Pontifex."*

"Oh, my God!" Tommy Salter said in despair.

A flicker of consciousness was passing through the wounded chaplain; he heard the words and was pleased that somebody aboard was praying.

Afterword

Despite the gloom of potential catastrophe that we mast face, there is no reason to give up. If we think about catastrophes with the sober scientific speculation *of A Choice of Catastrophes,* we must conclude that:

1) Some catastrophes are high-probability and even in evitable, but will take place so far in the future that it makes no sense to worry about them now,

2) Some catastrophes may take place in the near future, even tomorrow, but are so extremely low-probability that it makes no sense to worry about them excessively.

3) Some catastrophes are high-probability and may take place in the near-future, even tomorrow. It is only these which must concern us now.

In every case, however, the catastrophes that are both high-probability and near-future are human-caused: nuclear war, overpopulation, overpollution, resource depletion, and *so* on. And if they are human-caused, they could, conceivably, be human-cured.

As Isaac Asimov stated in *A Choice of Catastrophes,* the most significant meaning of the title is that "We can deliberately choose to have no catastrophes at all."